MODEL PRO-9

with Solid State Relay

Operation and Service Manual
Tenderizer Parts List
Starting with Serial Number 30,000



Biro Designed *Biro Built*

☆ IMPORTANT NOTICE ☆

This Manual contains important safety instructions which must be strictly followed when using this equipment.

Part No.
T3400-091
1-10-38

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— NOTES —

NOTICE TO OWNERS AND OPERATORS

BIRO's products are designed to process food products safely and efficiently. Unless the operator is properly trained and supervised, however, there is the possibility of a serious injury. It is the responsibility of the owner to assure that this machine is used properly and safely, strictly following the instructions contained in this Manual and any requirements of local law.

No one should use or service this machine without proper training and supervision. All operators should read and be thoroughly familiar with the procedures contained in this Manual. Even so, BIRO cannot anticipate every circumstance or environment in which its products will be used. You, the owner and operator, must remain alert to the hazards posed by the function of this equipment — particularly the SHARP ROTATING BLADES. No one under eighteen (18) years of age should operate this equipment. If you are uncertain about a particular task, ask your supervisor.

This Manual contains a number of safe practices in the SAFETY TIPS section. Additional warnings are placed throughout the Manual. Warnings related to your personal safety are indicated by:

⚠ WARNING OR ⚠

Warnings related to possible damage to the equipment are indicated by:

⚠ CAUTION

If any warning label, or Manual becomes misplaced, damaged, or illegible, please contact your nearest Distributor or BIRO directly for a replacement.

Remember, however, this Manual or the warning labels do not replace the need to be alert and to use your common sense when using this equipment.

This Manual applies to machines with serial number 30,000 and higher; to machines with redesigned SD gear box, serial number 52,902 and higher; and machines with redesigned heavy duty gear box, serial number 52,884 and higher.

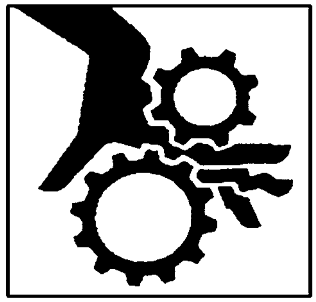
- NOTE -

A copy of this manual is included with each PRO-9 TENDERIZER

**The descriptions and illustrations contained in this manual are not binding.
The manufacturer reserves the right to introduce any modification without updating the manual.**

SAFETY TIPS

WARNING



SHARP ROTATING BLADES

TO AVOID SERIOUS PERSONAL INJURY

- **NEVER** Touch This Machine without Training and Authorization by Your Supervisor.
- **ALWAYS** Read Operation and Service Manual **BEFORE** Operating, Cleaning, or Servicing.
- **ALWAYS** Keep Hands Clear of Blades and Moving Parts.
- **ONLY** Use a Qualified Electrician to Install According to Local Building Codes: Machine **MUST** Be Properly Grounded.
- **ONLY** Install on Level, Non-Skid Surface in Clean, Well-Lighted Work Area Away from Children and Visitors.
- **DO NOT** Tamper With, Bypass or Remove the Safety Cover, Interlock Switch, or Toggle Switch.
- **DO NOT** Operate With the Safety Cover in Raised Position or Removed. Safety Cover **MUST** Be Down During Operation.
- **ONLY** Operate Machine by Using the Machine's ON/OFF Toggle Switch. **ALWAYS** Turn Off Toggle Switch When Not in Use.
- **DO NOT** Wear Gloves While Operating.
- **ALWAYS** Turn Off and Unplug Machine From Power Source and Perform Lockout/Tagout Procedures **BEFORE** Cleaning, Servicing, or Attempting to Unjam or Unclog.
- **ALWAYS** Wear Wire Mesh Safety Gloves When Touching or Handling Stew Cutter Attachments.
- **NEVER** Leave Machine Unattended While Running.
- **PROMPTLY REPLACE** Any Worn or Illegible Warning Labels.
- **USE ONLY** BIRO Parts and Accessories Properly Installed.

I. INSTALLATION

⚠ WARNING

TO AVOID SERIOUS PERSONAL INJURY, PROPERLY INSTALL EQUIPMENT IN ADEQUATE WORK AREA

- **ALWAYS** Use Qualified Technician and Electrician for Installation.
- **ALWAYS** Install Equipment in Work Area with Adequate Light and Space.
- **ONLY** Operate on a Solid, Level, Non-Skid Surface.
- **NEVER** Bypass, Alter, or Modify This Equipment in Any Way From Its Original Condition.
- **NEVER** Operate With Safety Cover in raised Position or Removed.
- **NEVER** Operate Without all Warnings Attached.

1. Read this Manual thoroughly before installation and operation. **Do not** proceed with installation and operation if you have any questions or do not understand anything in this Manual. Contact your local Distributor, or BIRO **first.**
2. Install machine on a level, solid, non-skid surface in a well-lighted work area away from children and visitors.
3. Machine **must** be properly grounded. Use a qualified electrician to install according to local building codes.
4. Make sure ON/OFF toggle switch is in **"OFF"** position.
5. Lower Safety Cover into operating position as shown in the picture on the front of this Manual.
6. Uncoil electrical cord and plug into specified, grounded outlet. (Specifications for this machine are found on the plate located on the back of the case.)
7. With Safety Cover lowered into operating position, turn ON/OFF toggle switch to "ON" position. The blades will begin to rotate. Make sure machine operates properly and is stable and secure on operating surface.

⚠ KEEP HANDS CLEAR OF SHARP ROTATING BLADES.

8. Raise Safety Cover to check safety interlock switch – **machine should turn off.**
9. Turn toggle switch to "**OFF**" position.
10. Check placement of all warning labels. Machine is ready for trained operators to process product.
11. Contact your local distributor or BIRO directly if you have any questions or problems with the installation or operation of the machine.

II. OPERATION

WARNING

SHARP ROTATING BLADES

TO AVOID SERIOUS PERSONAL INJURY

- **ONLY** Properly Trained Pesonnel Should Use This Equipment.
- **ALWAYS** Keep Hands Clear of Blades and Other Moving Parts.
- **NEVER** Operate With Safety Cover in Raised Position or Removed. Safety Cover **MUST** Be Down During Operation.
- **DO NOT** Tamper With, Bypass, or Remove Safety Cover, Interlock Switch, or Toggle Switch.
- **ALWAYS** Turn Off and Unplug Machine from Power Source and Perform Lockout/Tagout Procedures Before Cleaning, Servicing, or Attempting to Unjam or Unclog.
- **NEVER** Leave Unattended While Running.
- **ALWAYS** Turn Off Toggle Switch When Not in Use.
- **ONLY** Operate Machine By Using ON/OFF Toggle Switch.
- **DO NOT** Wear Gloves While Running.
- **ALWAYS** Wear Wire Mesh Safety Gloves When Touching or Handling Stew Cutter Attachments for Removal and Cleaning Purposes Only.

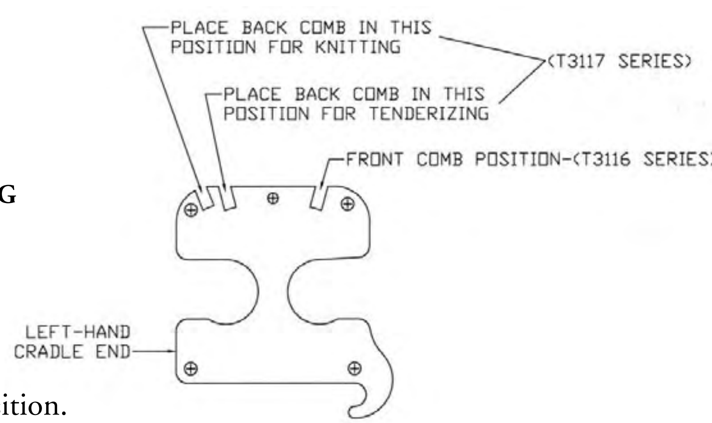
A. TO PROCESS PRODUCT

1. Have product prepared prior to using this machine by slicing to appropriate size.

NOTE A. The dimensions of the feed slot in the Safety Cover are the **maximum** size of product which can be processed.

NOTE B. Position Rear Comb T3117 into one of the rear slots which is your processing requirement - tenderizing or knitting. See illustration below.

COMB POSITIONS FOR TENDERIZING & KNITTING



2. Make sure Safety Cover is in the down position.

DO NOT WEAR GLOVES WHILE OPERATING.

DO NOT WEAR GLOVES WHILE OPERATING.

3. Turn ON/OFF toggle switch to “ON” position.

4. Insert the product through the feed slot in Safety Cover. Observe the processing through the Safety Cover.

5. Product will exit at machine output under Blade Assemblies.

NEVER REACH OR GRAB FOR PRODUCT AT MACHINE OUTPUT - ALLOW PRODUCT TO DROP AND FULLY CLEAR ROTATING BLADES BEFORE REMOVING PRODUCT.

6. Repeat procedure as necessary.

7. **TURN MACHINE “OFF” BY MOVING TOGGLE SWITCH TO “OFF” POSITION WHEN FINISHED.**

B. TO UNJAM OR UNCLOG

WARNING

SHARP ROTATING BLADES
TO AVOID SERIOUS PERSONAL INJURY

- **ALWAYS** Keep Hands Clear of Blades and Moving Parts.
- **ALWAYS** Turn Machine “OFF” and Unplug From Power Supply and Perform Lockout/Tagout Procedures **BEFORE** Attempting to Unjam or Unclog.
- **NEVER** Operate With Safety Cover in Raised Position or Removed. Safety Cover Must Be Down During Operation.
- **ALWAYS** Wear Wire Mesh Safety Gloves When Touching or Handling Stew Cutter Attachments for Removal and Cleaning Purposes Only.

1. If machine becomes jammed or clogged, turn ON/OFF toggle switch to “**OFF**” position and **UNPLUG** machine from power source and perform lockout/tagout procedures.

ALWAYS WEAR WIRE MESH SAFETY GLOVES WHEN TOUCHING OR HANDLING STEW CUTTER ATTACHMENTS.

2. Raise Safety Cover.

3. Unclog or unjam machine by disassembling Blade Assemblies following directions on pages 6 and 7 of this manual.

CAUTION

DRIVE PINS MAY BE ENGAGED IN DRIVE COUPLING MAKING IT DIFFICULT TO REMOVE CRADLE ASSEMBLY. CAREFULLY ROTATE DRIVE BELT IN REVERSE TO DISENGAGE.

4. Reassemble machine according to directions on pages 9-13 of this Manual.

5. With Safety Cover lowered into operating position, plug machine into power source and resume normal operation.

III. CLEANING

WARNING

SHARP ROTATING BLADES

TO AVOID SERIOUS PERSONAL INJURY

- **ALWAYS** Turn Off and Unplug Machine from Power Source and Perform Lockout/Tagout Procedures **Before** Cleaning or Servicing.
- **ALWAYS** Wear Wire Mesh Safety Gloves When Touching or Handling Stew Cutter Attachments for Removal and Cleaning Purposes Only.
- **ONLY** Use Recommended Cleaning Equipment, Materials, and Procedures.
- **ALWAYS** Thoroughly Clean Equipment at Least Daily.

A. CLEANING SAFETY COVER AND CASE

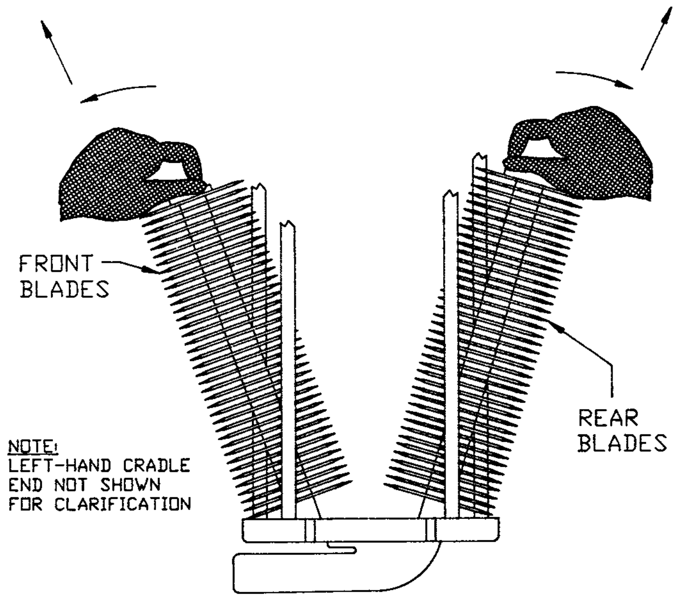
1. **BEFORE** cleaning, turn toggle ON/OFF switch to **"OFF"** position and **UNPLUG** machine from power supply and perform lockout/tagout procedures.
2. Raise Safety Cover and remove by sliding Cover to left and lifting off. Wash Safety Cover in a soapy bath of 120°-130°F and wipe with non-abrasive cloth.
3. Rinse thoroughly with hot water and allow to air dry.
4. Check to make sure all labels are intact and legible. Replace labels if they are worn or illegible.

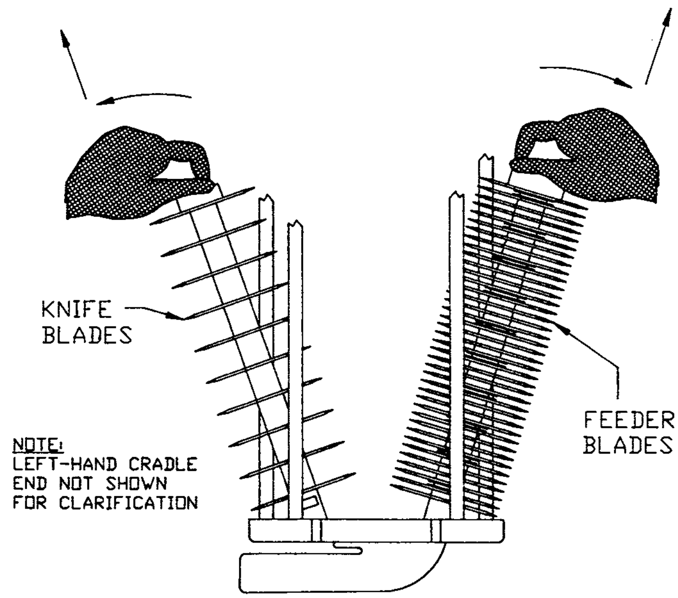
B. CLEANING CRADLE AND BLADE ASSEMBLIES

ALWAYS WEAR WIRE MESH SAFETY GLOVES WHEN TOUCHING OR HANDLING STEW CUTTER ATTACHMENTS.

1. Remove Cradle Assembly as follows:
   a. While holding cradle safety lift handle with left hand, release Cradle Assembly lock on right end of Cradle Assembly with right hand and slide Cradle Assembly to right.
   b. Bring right end of Cradle Assembly forward first, then remove Cradle Assembly from machine.
2. Remove front wire comb by raising it by both ends and rolling it out in a forward motion.

   Remove rear wire comb by raising it by both ends and rolling it out in a backward motion.
3. Next, remove the front and rear Blade Assemblies. Holding the drive coupling end of the front blade assembly in your left hand, grasp the drive coupling end of the back blade assembly with your right hand. Pivot both blade assemblies away from each other and slide the nylon bearing out of their pilot holes as illustrated.





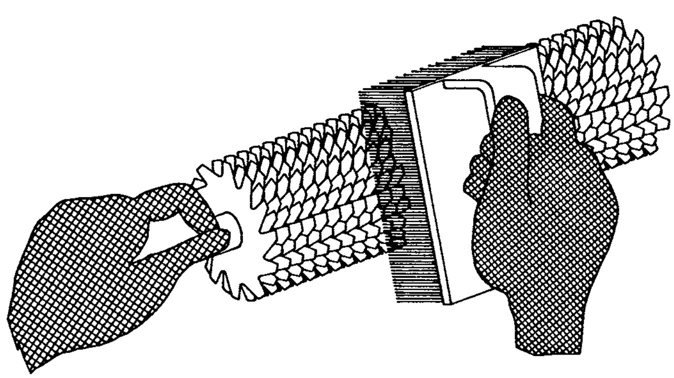
4. With the parts disassembled, they should be cleaned and sanitized as follows:

STEP 1

Rinse Cradle Assembly, wire combs, and Blade Assemblies in a water bath of 110°-115°F to loosen particles.

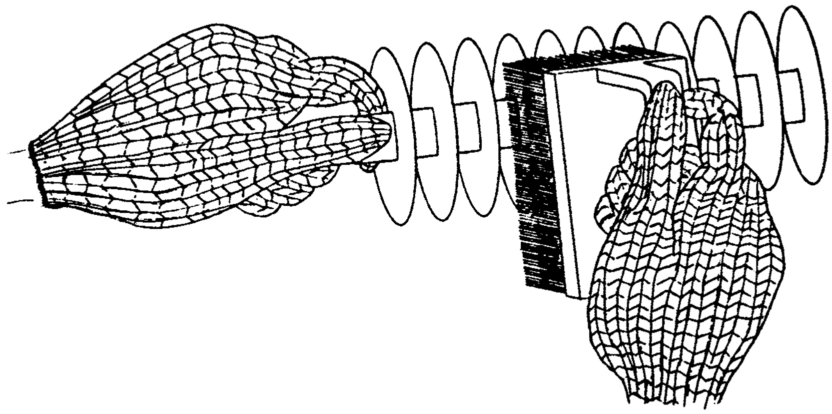
STEP 2

Immerse all items in soapy bath of 120°-130°F and clean using the BIRO Cleaning Brush, Part #T3091-1



CLEANING TENDERIZER, SCORING, CUTLET AND STAR BLADE ASSEMBLIES

ALWAYS WEAR WIRE MESH SAFETY GLOVES WHEN TOUCHING OR HANDLING STEW/STRIP CUTTER BLADE ASSEMBLIES.



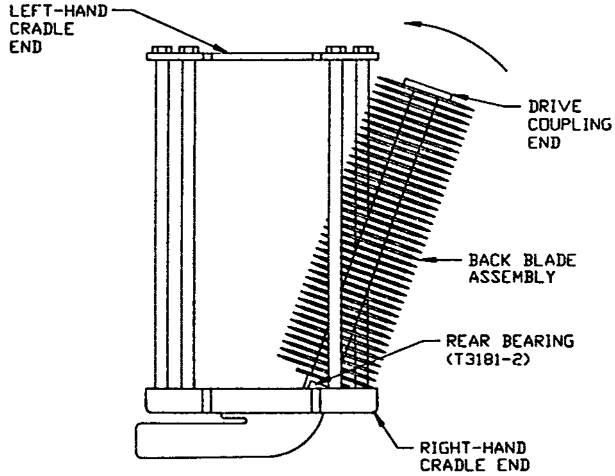
CLEANING STEW/STRIP CUTTER BLADE ASSEMBLIES

ALWAYS WEAR WIRE MESH SAFETY GLOVES WHEN TOUCHING OR HANDLING STEW/STRIP CUTTER BLADE ASSEMBLIES.

ASSEMBLY OF PRO-9 TENDERIZER, SCORING, CUTLET AND STAR CRADLE ASSEMBLIES

NOTE: BIRO RECOMMENDS THE USE OF WIRE SAFETY CLEANING GLOVES WHEN HANDLING CRADLE ASSEMBLIES.

STEP 1: Place the empty cradle on table top with plastic handle toward you, left hand cradle end away.

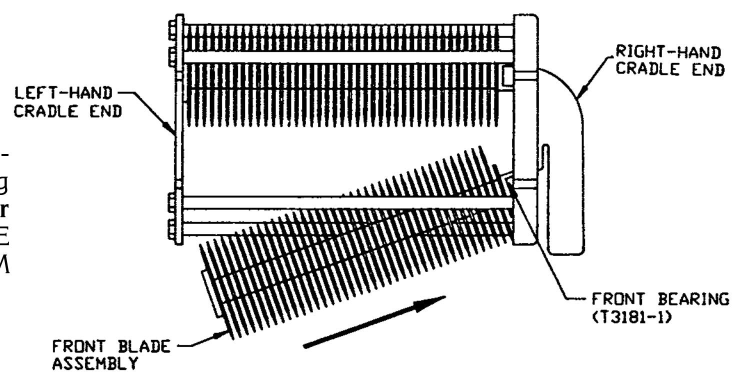


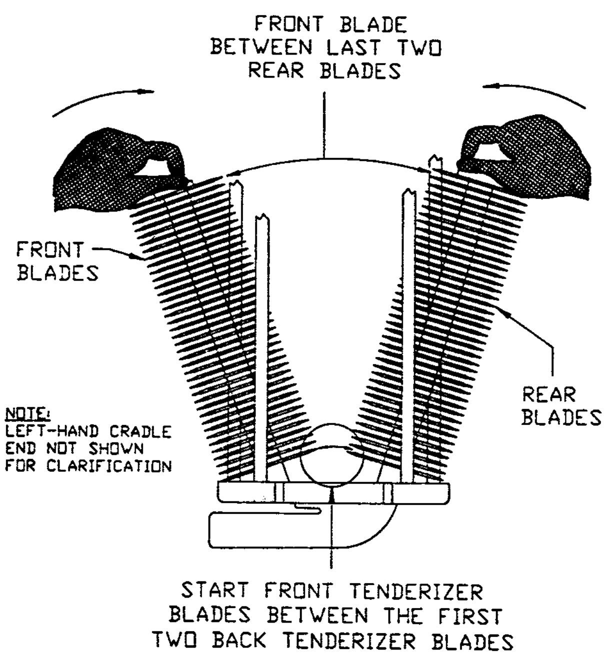
STEP 2:

Holding drive coupling end, insert back blade assembly bearing #T3181-2, into large bearing hole on right hand cradle end **with bearing shoulder flat up**. Pivot shaft into the left hand cradle end slot.

STEP 3:

Holding drive coupling end, insert front blade assembly #T3181-1, bearing slightly into small bearing hole on right hand cradle end **with bearing shoulder flat up**. CAUTION: DO NOT FORCE OR MAKE CONTACT WITH REAR ASSEMBLY OR BOTTOM OF CRADLE BAR OR BLADES WILL BE CHIPPED.





STEP 4:

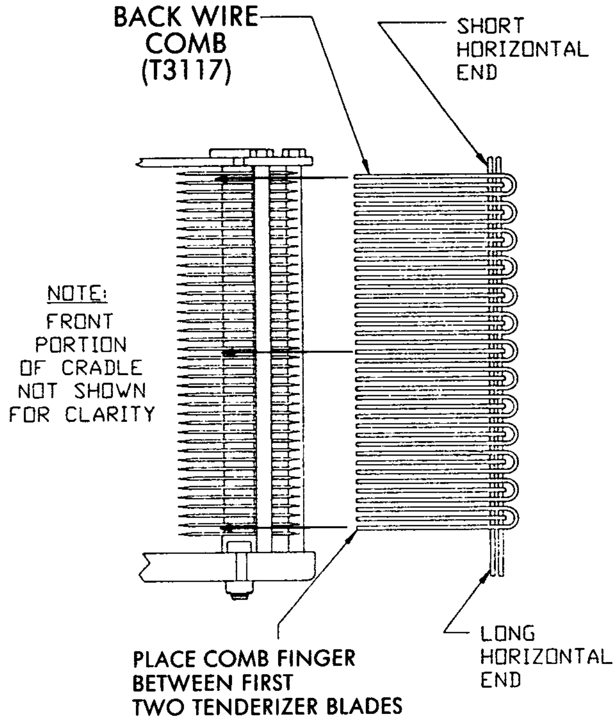
Holding the drive coupling end of the front blade assembly in your left hand, grasp the drive coupling end of the back blade assembly with your right hand and pivot the rear tenderizer blades away from the front knife blades.

STEP 5:

GENTLY pivot both blade assemblies together simultaneously. Make sure the front tenderizer blade at the right hand cradle end is **between** the first two rear tenderizer blades at the same end. Allow both drive coupling ends to rest in the cradle supports.

NOTE: You must take extra care in this procedure so as to match the back tenderizer blade assembly equally to the front cutting rollers in the exact way it came from the factory. If assembled properly, no binding should occur between the front and rear blade groups.

ASSEMBLY OF PRO-9 TENDERIZER, SCORING, CUTLET AND STAR CRADLE ASSEMBLIES WITH WIRE COMBS



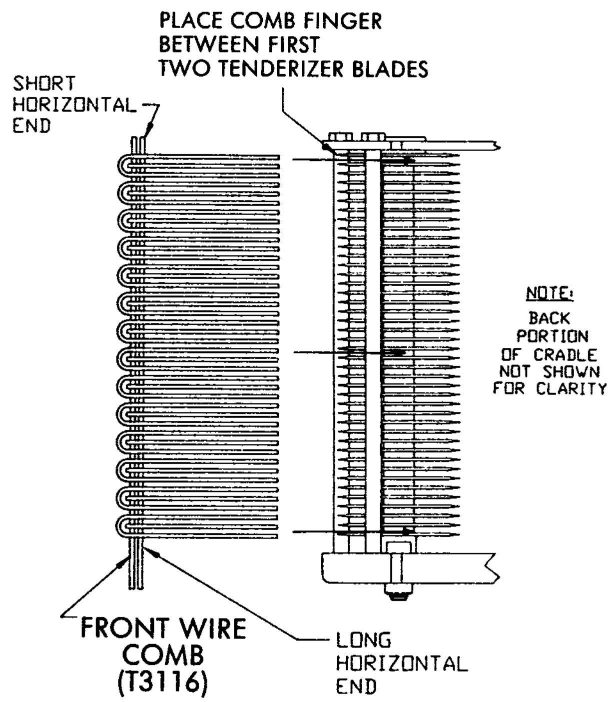
STEP 6:

Place back wire comb T3117 in right hand with the short horizontal end away from you. Place the comb finger closest to you (comb finger closest to right hand cradle end) **between** the first two tenderizer blades on the back blade assembly.

STEP 7:

Place front wire comb T3116 in left hand with short horizontal end away from you. Place the comb finger furthest end away from you (comb finger closest to left handle cradle end) between the first two tenderizer blades on the front blade assembly.

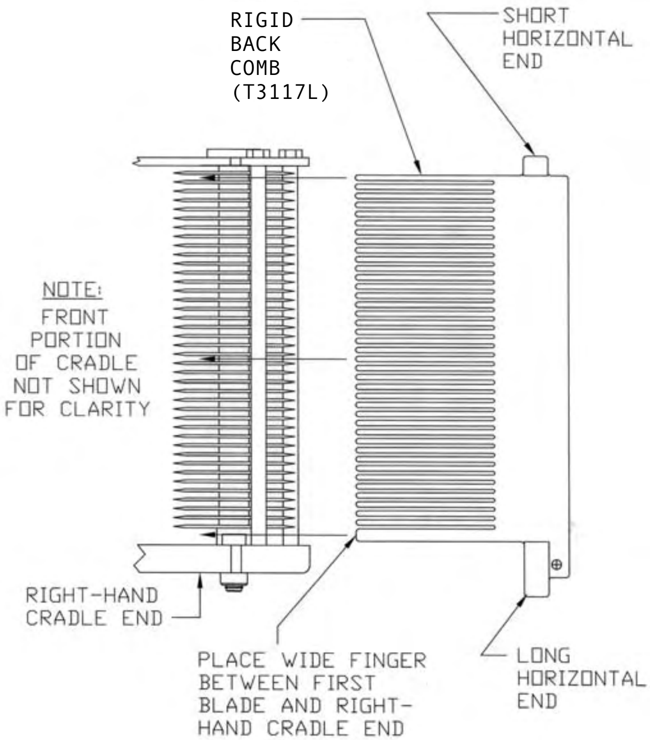
CAUTION: THERE SHOULD BE NO COMB FINGERS BETWEEN THE LEFT HAND CRADLE END AND THE KNIFE BLADE NEXT TO IT.



STEP 8:

Unplug electrical cord. Holding the cutting group's support handle, begin to insert the assembled cutting group into PRO-9 Tenderizer. Open safety cover, insert coupling ends first and then rotate the right hand cradle end back counter-clockwise onto the cutting group supports. Make sure coupling ends are locked into the driving shafts and then pull down cradle lock lever to firmly secure the cutting group. Close safety cover, plug in electrical cord, turn on toggle switch, and begin operation.

ASSEMBLY OF PRO-9 TENDERIZER, SCORING, CUTLET AND STAR CRADLE ASSEMBLIES WITH RIGID COMBS

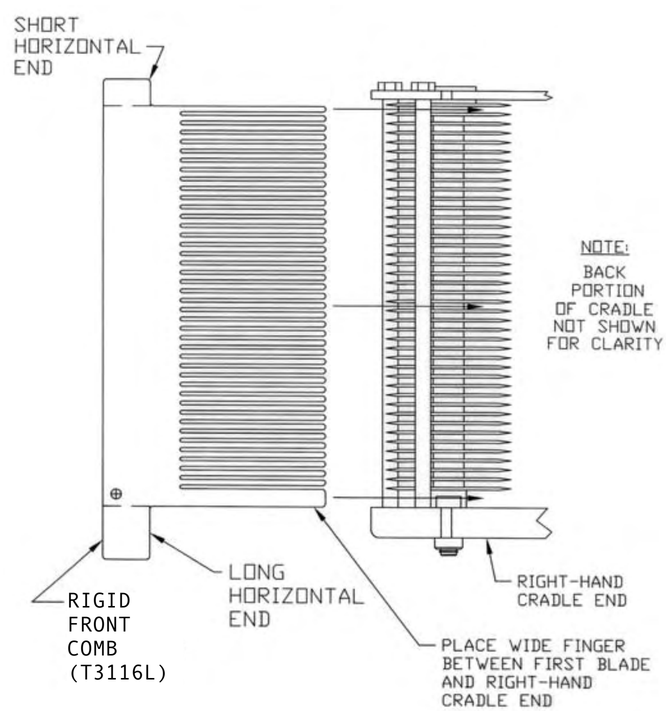


STEP 6:

Place back rigid comb T3117L in right hand with the short horizontal end away from you. Place the wide comb finger closest to you (wide comb finger closest to right hand cradle end) between the last tenderizer blade and right hand cradle end on the back blade assembly.

STEP 7:

Place front rigid comb T3117L in left hand. With short horizontal end away from you. Place the wide comb finger closest to you (wide comb finger closest to right hand cradle end) between the last tenderizer blade and right hand cradle end on the front blade assembly,



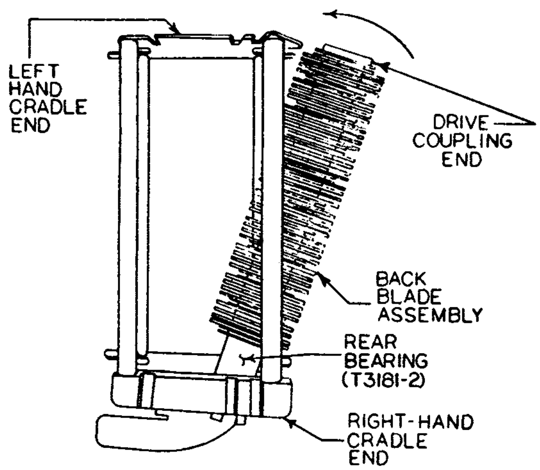
STEP 8:

Unplug electrical cord. Holding the cutting group's support handle, begin to insert the assembled cutting group into PRO-9 Tenderizer. Open safety cover, insert coupling ends first and then rotate the right hand cradle end back counter-clockwise onto the cutting group supports. Make sure coupling ends are locked into the driving shafts and then pull down the cradle lock lever to firmly secure the cutting group. Close safety cover, plus in electrical cord, turn on toggle switch, and begin operation.

ASSEMBLY OF PRO-9 STEW/STRIP CUTTING CRADLES

NOTE: BIRO RECOMMENDS THE USE OF WIRE SAFETY CLEANING GLOVES WHEN HANDLING CRADLE ASSEMBLIES.

STEP 1: Place the empty cradle on table top with plastic handle toward you, left hand cradle end away.

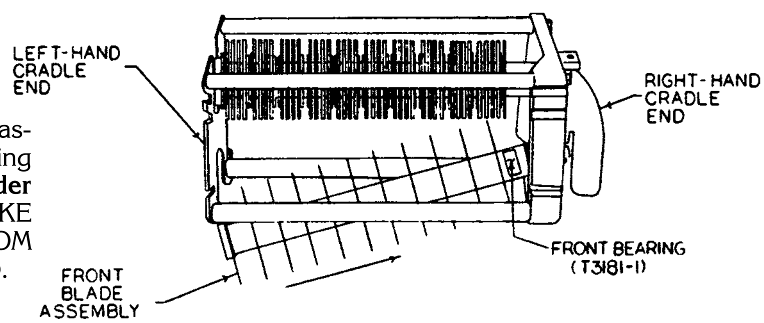


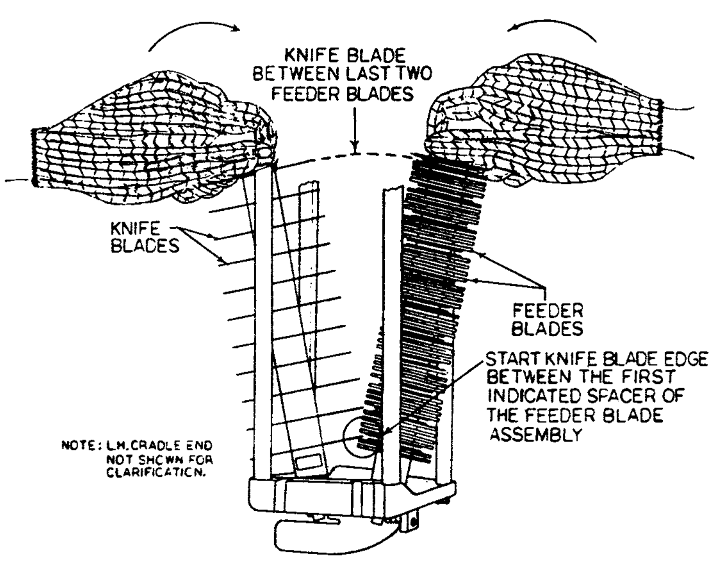
STEP 2:

Holding drive coupling end, insert back blade assembly T3181-2 bearing, into large bearing hole on right hand cradle end **with bearing shoulder flat up**. Pivot shaft into the left hand cradle end slot.

STEP 3:

Holding drive coupling end, insert front blade assembly T3181-1 bearing slightly into small bearing hole on right hand cradle end **with bearing shoulder flat up**. CAUTION: DO NOT FORCE OR MAKE CONTACT WITH REAR ASSEMBLY OR BOTTOM OF CRADLE BAR OR BLADES WILL BE CHIPPED.





STEP 4:

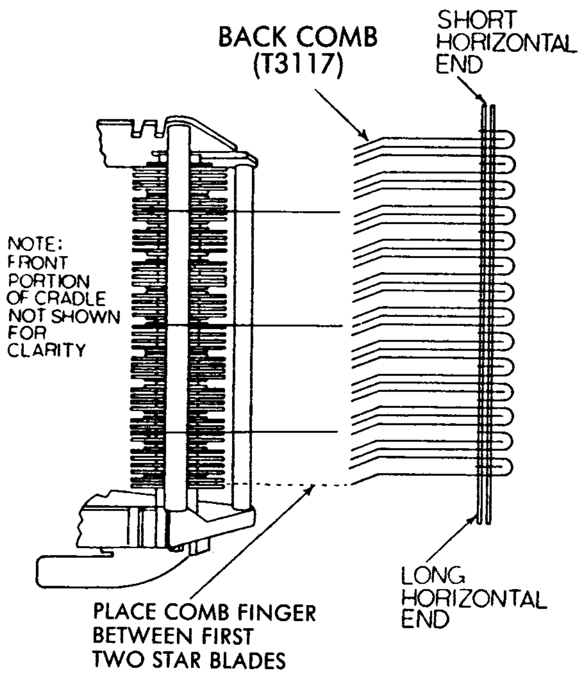
Holding the drive coupling end of the front blade assembly in your left hand, clutch the drive coupling end of the back blade assembly with your right hand and pivot the rear feeder blades away from the front knife blades.

STEP 5:
For ¾″ Stew Cradles

GENTLY pivot both blade assemblies together simultaneously. Make sure the knife blade at the right hand cradle end is **between** the second and third feeder blades at the same end. Note: other stew blade assemblies with different spacing start at different points. Allow both drive coupling ends to rest in the cradle supports. You must finish with the knife blade between the last two feeder blades.

NOTE: You must take extra care in this procedure so as to match the back feeder blade assembly equally to the front cutting rollers in the exact way it came from the factory. If assembled properly, no binding should occur between the front and rear blade groups.

ASSEMBLY OF PRO-9 STEW/STRIP CUTTING CRADLES

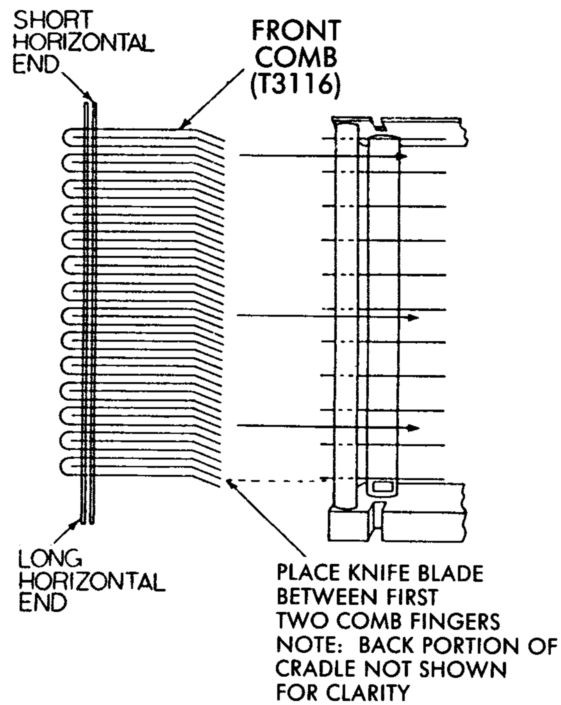


STEP 6:

Place back comb T3117 in right hand with the short horizontal end away from you. Place the comb finger closest to you (comb finger closest to right hand cradle end) **between** the first two feeder blades on the back blade assembly.
CAUTION: IF COMB FINGERS ARE BENT OR DISTORTED, REBEND SUSPECT COMB FINGER BACK INTO POSITION USING THE COMB STRAIGHTENER TOOL — PART No. TA3119.

STEP 7:

Place front comb T3116 in left hand with short horizontal end away from you. Place the first knife blade (knife blade closest to right hand cradle end) between the second and third fingers on the front comb. CAUTION: THERE SHOULD BE NO COMB FINGERS BETWEEN THE LEFT HAND CRADLE END AND THE KNIFE BLADE NEXT TO IT. Note: this procedure varies upon using other stew blade assemblies with different spacing.



STEP 8:

Unplug the power cord then holding the cutting group's support handle, begin to assemble completed cutting group into PRO-9 Tenderizer. Open hopper cover, then assemble cutting group by inserting coupling ends first and then rotating the right hand cradle end back counter-clockwise onto the cutting group supports. Make sure coupling ends are locked into the driving shafts and then pull down plastic handle to firmly secure the cutting group. Close hopper cover and begin operation.

IV. MAINTENANCE

WARNING

SHARP ROTATING BLADES

TO AVOID SERIOUS PERSONAL INJURY

- **ALWAYS** Turn Off and Unplug Machine from Power Source and Perform Lockout/Tagout Procedures Before Servicing.
- **NEVER** Touch This Machine Without Training and Authorization By Your Supervisor
- **ALWAYS** Keep Hands Clear of Blades and Moving Parts.
- **DO NOT** Tamper With, Bypass, or Remove the Safety Cover, Interlock Switch, or Toggle Switch.
- **ALWAYS** Wear Wire Mesh Safety Gloves When Touching or Handling Stew Cutter or Stripper Attachments for Removal and Cleaning Purposes Only.
- **PROMPTLY REPLACE** Any Worn or Illegible Warning Labels.
- **USE ONLY** BIRO Parts and Accessories Properly Installed.

A. GENERAL

1. Machine should be generally inspected every time it is cleaned (at least daily) to ensure that it is in good operating condition and has not been damaged or tampered with.
   a. **Safety Cover:** The Safety Cover should be checked for cracks, gouges, or other damage. Replace if any of these conditions exist.
   b. **Switches and Safety Interlock:** All switches should be checked for proper operation. Check the rubber cap nut on the toggle switch (Part #T3101-2) and the rubber cap nut on the interlock switch (Part #T3105) for wear, tears, or damage. Replace if worn, torn, or damaged.

      The Safety Cover interlock switch should be checked as follows:

      i. Make sure ON/OFF toggle switch is in "**OFF**" position.
      ii. Lower Safety Cover into operating position.
      iii. Plug electrical cord into specified outlet.
      iv. With Safety Cover lowered into operating position, turn ON/OFF toggle switch to "ON" position.

KEEP HANDS CLEAR OF SHARP ROTATING BLADES.

      v. Raise Safety Cover to check safety interlock switch – **machine should turn off.**
      vi. Turn toggle switch to "**OFF**" position. Unplug machine from power source and perform lockout/tagout procedures.

DO NOT USE THIS MACHINE IF ANY SWITCH FAILS TO FUNCTION PROPERLY.

TURN OFF AND UNPLUG MACHINE FROM POWER SOURCE AND PERFORM LOCKOUT/TAGOUT PROCEDURES BEFORE PERFORMING ANY OTHER MAINTENANCE.

c. **Cradle and Blade Assemblies:** The blades and teeth of the Blade Assemblies should be checked for any damage, including broken, bent, or missing teeth, or gouged or bent blades. Any damaged Blade Assemblies should be replaced.

d. **Machine Case:** The machine case should be checked for damage beyond ordinary wear and tear. The electrical cord should be checked for gouges, fraying, or other damage. Damaged cords should be replaced.

e. **Labels:** The labels on the machine should be replaced if they are worn, torn, or illegible.

B. LUBRICATION

1. The **Gear Box** oil **must** be changed after the first four months of operation and, thereafter, at one-year intervals.
2. The **Motor** has sealed bearings.
3. To change the **Gear Box** oil and to lubricate the **Motor**, follow these steps:

a. Remove the top of the case by removing the seven screws, which hold it in place.

b. **Gear Box**

i. Remove vent plug and turn machine upside down to drain oil.

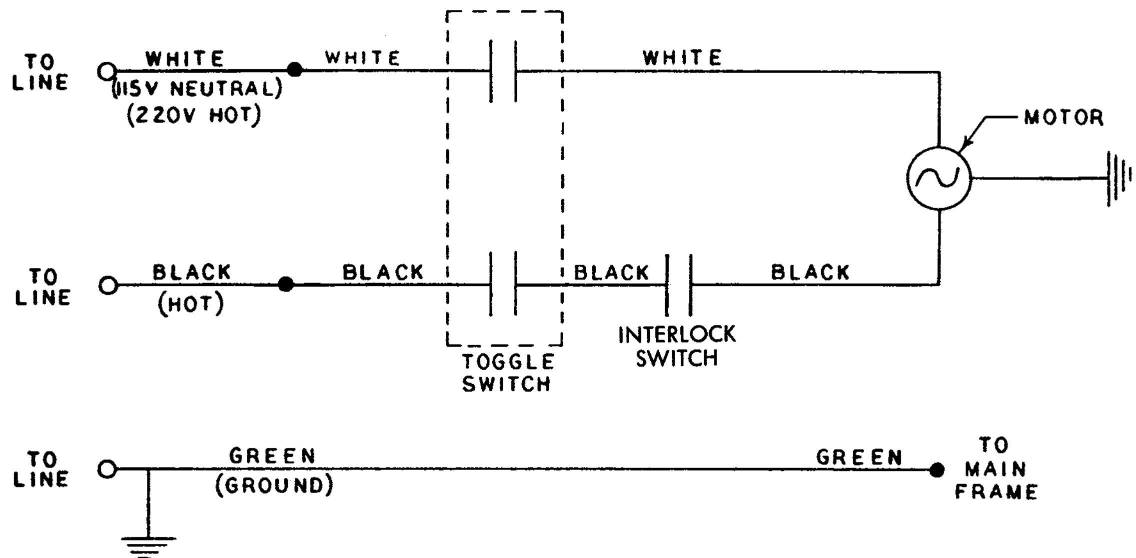
ii. For standard duty unit, use 1.5 oz. of #30 wt. oil. For heavy duty unit, use 2 oz. of #30 wt. oil.

iii. Dispose of old oil in accordance with local, state, and federal law.

iv. Replace vent plug.

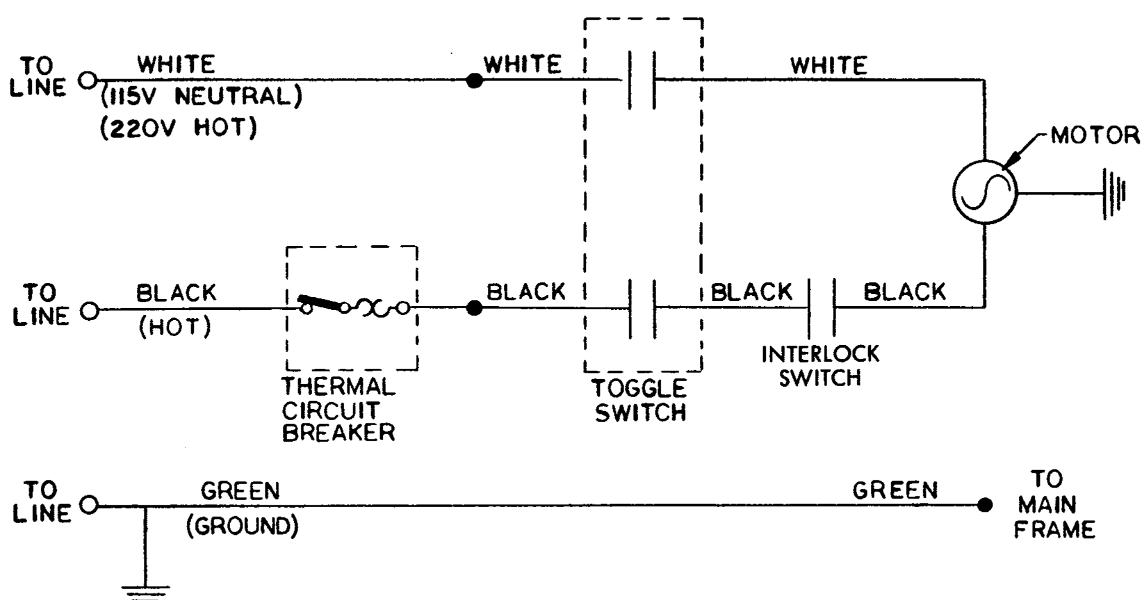
SCHEMATIC – 1

MODEL PRO-9 TENDERIZER
WIRING DIAGRAM
115-220 VOLTS/1 PHASE
50-60 CYCLE



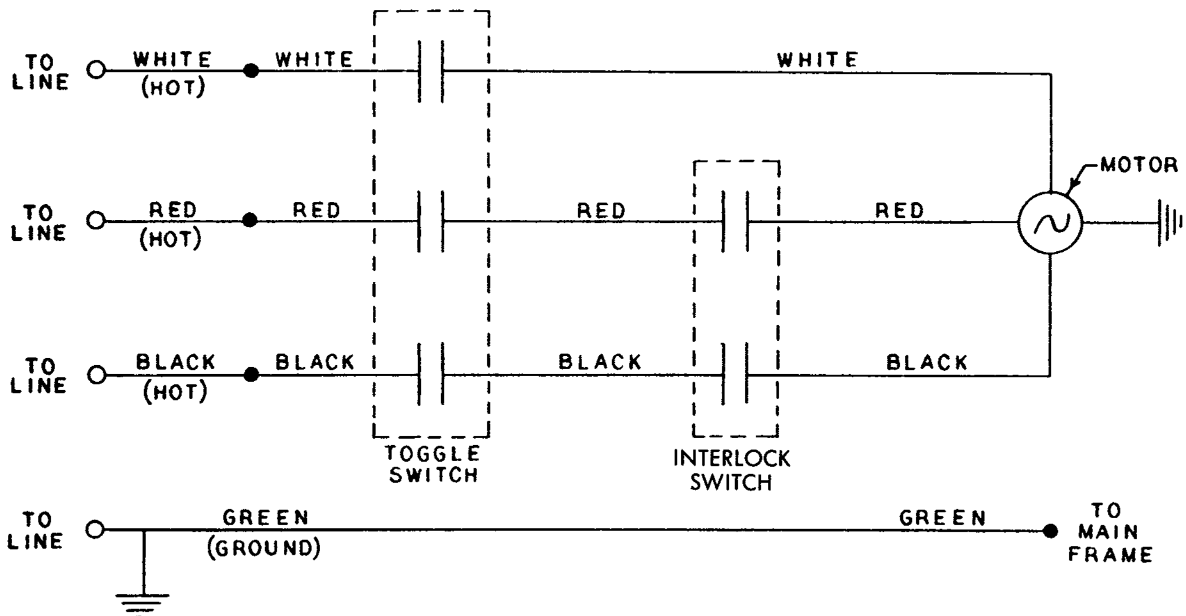
SCHEMATIC – 2

MODEL PRO-9 TENDERIZER
WIRING DIAGRAM
115-220 VOLTS/1 PHASE/50-60 CYCLE
WITH IN LINE CIRCUIT BREAKER

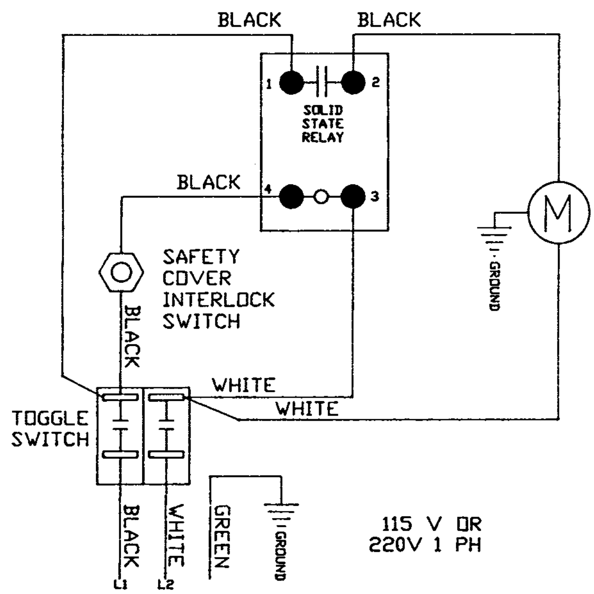


SCHEMATIC – 3

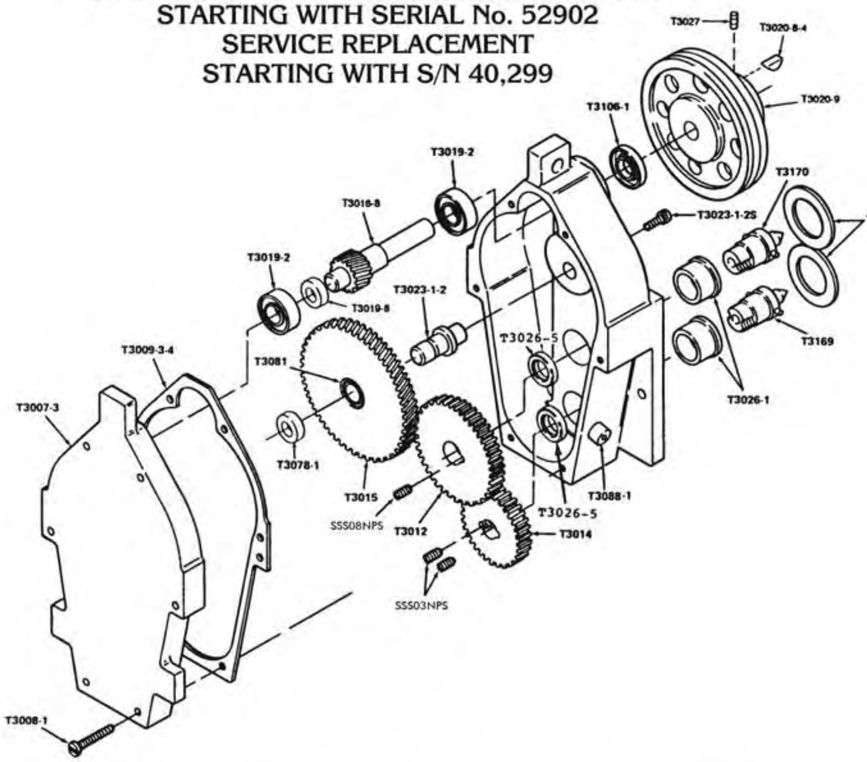
MODEL PRO-9 TENDERIZER
WIRING DIAGRAM
220-380-440 VOLTS/3 PHASE
50-60 CYCLE



WIRING DIAGRAM
115 or 220 VOLT: 1 PHASE, 50-60 HZ
WITH SOLID STATE RELAY



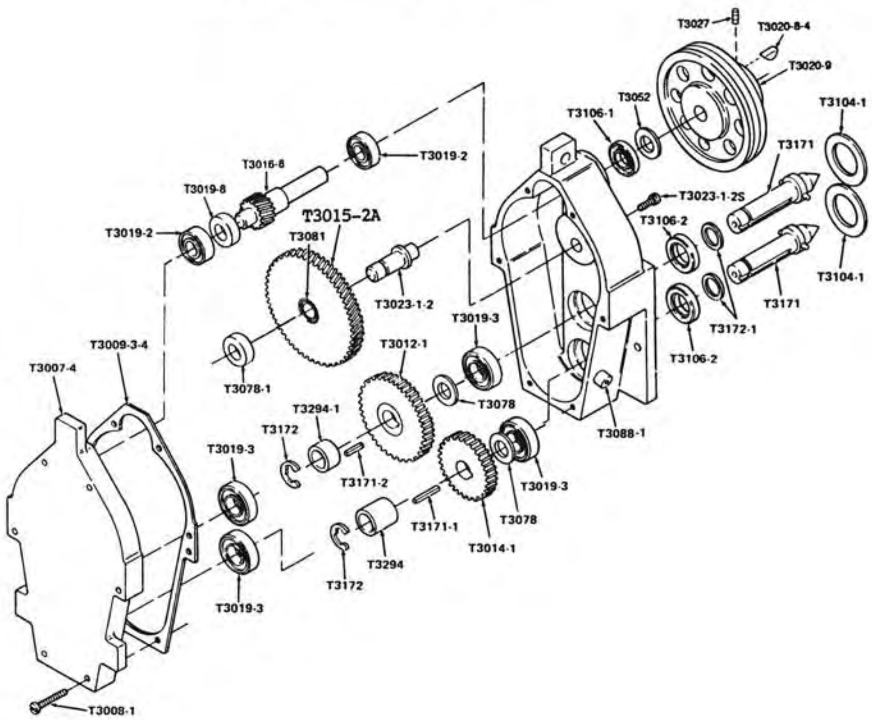
ITEM NO. TA3168-3
STANDARD DUTY TRANSMISSION ASSEMBLY
STARTING WITH SERIAL No. 52902
SERVICE REPLACEMENT
STARTING WITH S/N 40,299



Item Number	Description
T3007-3	Gear Box Cover, (#52902 on)
T3008-1	Gear Box Cover Screw
T3009-3-4	Gear Box Cover Gasket (#52902 on)
*T3012	Knife Drive Gear & Pinion, SD
*T3014	Knife Drive Gear, Front, SD
T3015	Idler Fibre Gear & Pinion, SD
T3016-8	Driven Pulley Gear And Shaft (#59094 on)
SSS08NPS	Key Lock Screw, 1/2"
T3019-2	Driven Pulley Shaft Ball Bearing
T3019-8	Driven Pulley Shaft Bearing Washer
T3020-8-4	Driven Pulley Woodruff Key
T3020-9	Driven Pulley, 2V, 4 × 1/2 60HZ-SD 85 & 105 RPM 50HZ-SD 85 RPM
T3023-1-2	Idler Gear Shaft, (#52902 on)
T3023-1-2S	Idler Gear Shaft Screw (#52884 on)
T3026-1	Coupling Shaft Bearing (#43479 on)
T3026-5	Seal, Beginning with Serial number 63718, SD
T3027	Pulley Set Screw
SSS03NPS	Key Lock Screw, 1/4"
T3052	Idler Gear Shaft Washer
T3078-1	Idler Gear Thrust Washer (#55020 on)
T3081	Idler Gear Bearing
T3088-1	Gear Box Vent
T3104-2	Silicon Washer (#43479 on)
T3106-1	Pulley Shaft Oil Seal
*T3169	Knife Drive Coupling, Front, w/Pin
*T3170	Knife Drive Coupling, Back, w/Pin
TA3168-3	Standard Duty Transmission Assembly
TA3169	Knife Drive Coupling & Gear Assembly, Front
TA3170	Knife Drive Coupling & Gear Assembly, Back

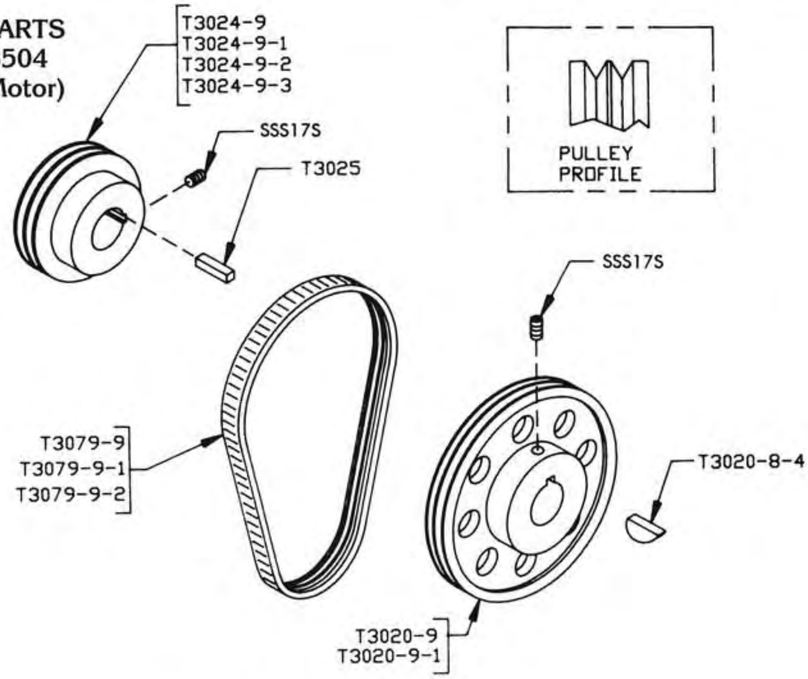
*Gear — Couplings are supplied less the threaded key lock screw hole when ordered separately due to thread misalignment.

ITEM NO. TA3168-4
HEAVY DUTY TRANSMISSION ASSEMBLY
STARTING WITH SERIAL No. 59094
SERVICE REPLACEMENT
STARTING WITH S/N 40,299



Item Number	Description
T3007-4	Gear Box Cover, (#52884 on)
T3008-1	Gear Box Cover Screw
T3009-3-4	Gear Box Cover Gasket (#52884 on)
T3012-1	Knife Drive Gear & Pinion
T3014-1	Knife Drive Gear, Front
T3015-2A	Idler Gear & Pinion Assembly, HD (#52537 on) with bushing
T3015-2A-R	Idler Gear & Pinion, HD (#52537 on) without bushing
T3016-8	Driven Pulley Gear And Shaft (#59094 on)
T3019-2	Driven Pulley Shaft Ball Bearing
T3019-3	Gear Box Ball Bearing
T3019-8	Driven Pulley Shaft Bearing Washer
T3020-8-4	Driven Pulley Woodruff Key
T3020-9	Driven Pulley, 2V, 4 × 1/2 60HZ-HD 115 & 140 RPM 50HZ-HD 140 RPM
T3020-9-1	Driven Pulley, 2V, 3 × 1/2 50HZ-SD 105 RPM
T3023-1-2	Idler Gear Shaft (#52884 on)
T3023-1-2S	Idler Gear Shaft Screw (#52884 on)
T3027	Pulley Set Screw
T3052	Idler Gear Shaft Washer
T3078	Thrust Washer
T3078-1	Idler Gear Thrust Washer (#55022 on)
T3081	Idler Gear Bearing
T3088-1	Gear Box Vent
T3104-1	Silicon Washer
T3106-1	Pulley Shaft Oil Seal
T3106-2	Coupling Shaft Oil Seal
T3171	Knife Drive Coupling w/Pin
T3171-1	Coupling Shaft Key, Front
T3171-2	Coupling Shaft Key, Back
T3172	Knife Drive Coupling Retaining Ring (#42583 on)
T3172-1	Knife Drive Coupling Spacer (#44186 on)
T3294	Gear Spacer, Front
T3294-1	Gear Spacer, Back
TA3168-4	Heavy Duty Transmission Assembly

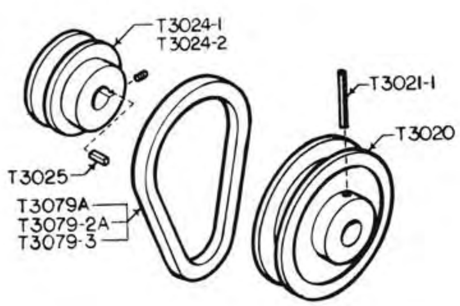
2V POLY FLEX BELT & PULLEY PARTS STARTING WITH SERIAL NO. 63504 (See Parts List Below for Correct Motor)

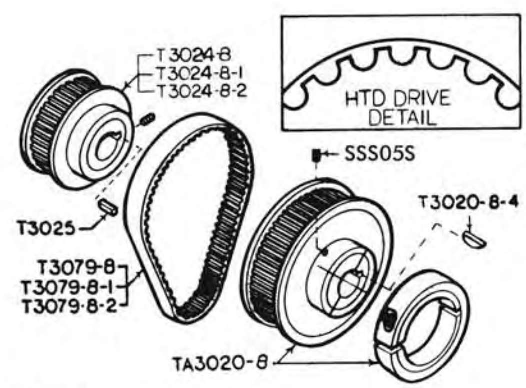


Item Number	Description
T3020-8-4	Driven Pulley Woodruff Key
T3020-9	Driven Pulley, 2-V, 4 × ½, SD & HD 60HZ-SD 85 & 105 RPM 60HZ-HD 115 & 140 RPM 50HZ-SD 85 RPM; 50HZ-HD 140 RPM
T3020-9-1	Driven Pulley, 2V, 3 × ½, SD & HD 50HZ-SD 105 RPM
T3024-9	Motor Pulley, 2V, 2 × ⅝ 60HZ-HD 115 RPM
T3024-9-1	Motor Pulley, 2V, 3 × ⅝ 60HZ-SD 105 RPM 50HZ-SD 85 RPM; 50HZ-HD 140 RPM
T3024-9-2	Motor Pulley, 2V, 2⅜ × ⅝ 60HZ-HD 140 RPM
T3025	Motor Pulley Key
T3027	Motor Pulley Set Screw
T3045-3E-4	Motor, ¾HP, 115/230-60-1, HD
T3045-11E-3	Motor, ½HP, 115/230-60-1, SD & HD
T3079-9	Motor Belt, 2V, 2/5M462 60HZ-HD 115 RPM, 50HZ-SD 105 RPM
T3079-9-1	Motor Belt, 2V, 2/5M475 60HZ-SD 85 RPM; 60HZ-HD 140 RPM 50HZ-HD 115 RPM
T3079-9-2	Motor Belt, 2V, 2/5M500 60HZ-SD 105 RPM 50HZ-SD 85 RPM; 50HZ-HD 140 RPM
TA3020-9K	Poly Flex 2V Belt & Pulley Kit 60HZ-HD 115 RPM

POLY FLEX PULLEY & BELT KITS REPLACEMENT FOR ALL MACHINES BEFORE SERIAL NO. 63504

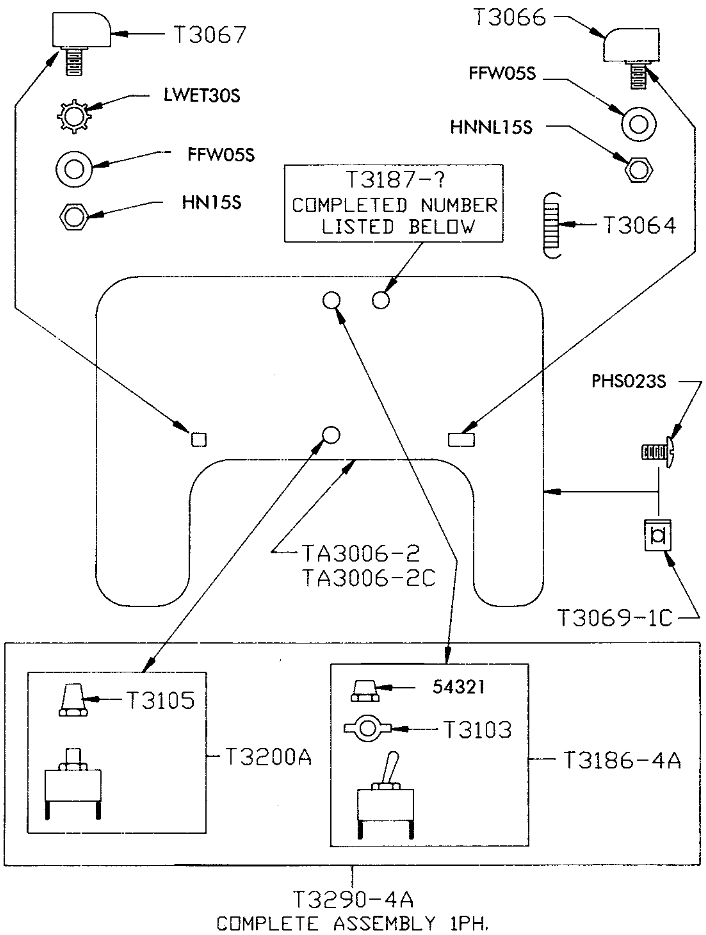
Duty	Cycle	RPM	Belt No.	Kit No.
SD SD	50 50	85 105	T3079-9-2 T3079-9	TA3020-9K-2 TA3020-9K-4
SD SD	60 60	85 105	T3079-9-1 T3079-9-2	TA3020-9K-3 TA3020-9K-2
HD HD	50 50	115 140	T3079-9-1 T3079-9-2	TA3020-9K-3 TA3020-9K-2
HD HD	60 60	115 140	T3079-9 T3079-9-1	TA3020-9K TA3020-9K-3





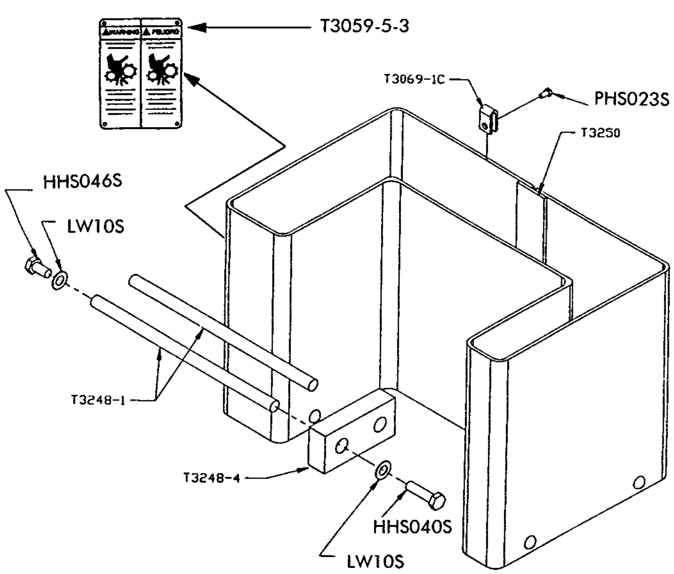
BELT & PULLEY PARTS BEFORE SERIAL NO. 63504

Item Number	Description
T3020	Driven Pulley, 4 × ½, SD-85 RPM
TA3020-8	HTD Driven Pulley w/Lock Collar, 4 × ½, HD
SSS05S	Driven Pulley Set Screw
T3020-8-4	Driven Pulley Woodruff Key
T3021-1	Driven Pulley Spring Pin, SD & HD
T3024-1	Motor Pulley, 3 × ⅝, 50HZ, SD-85 RPM
T3024-2	Motor Pulley, 2½ × ⅝, 60HZ, SD-85 RPM
T3024-8	Motor Pulley, HTD 2 × ⅝, 60HZ, HD-115 RPM
T3024-8-1	Motor Pulley, HTD, 2½ × ⅝, 50HZ, HD-115 RPM 60HZ, HD-140 RPM
T3024-8-2	Motor Pulley, HTD, 50HZ, HD-140 RPM
T3025	Motor Pulley Key
T3079A	Motor Belt, 20" 50HZ-SD
T3079-2A	Motor Belt 19" 60HZ-SD
T3079-3	Motor Belt, 18¾ Special, N/A use TA3020-9K-2
T3079-8	Motor HTD Belt, 450mm, 60HZ-115, N/A use TA3020-9K
T3079-8-1	Motor HTD Belt, 465mm, 60HZ-140; 50HZ-115, N/A use TA3020-9K-3
T3079-8-2	Motor HTD Belt, 500mm, 50HZ-140, N/A use TA3020-9K-2



CASE TOP PARTS

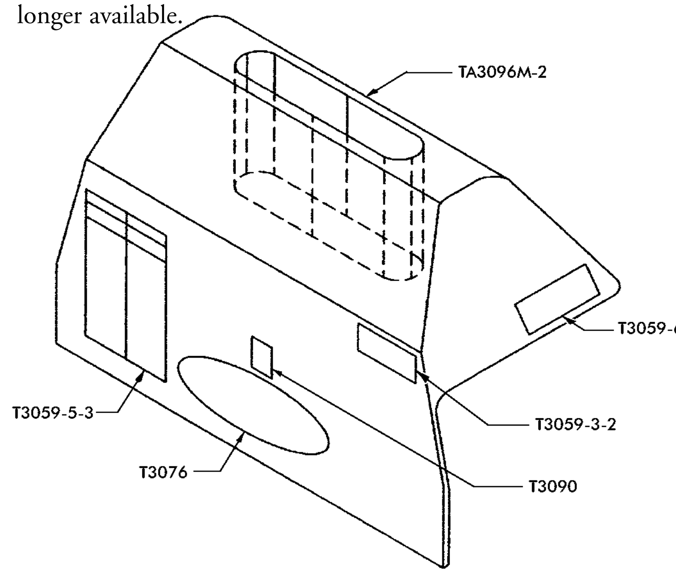
Item Number	Description
TA3006-2	Case Top Assy. w/o Switches
TA3006-2C	CSA Case Top Assy. w/o Switches
HN15S	Safety Cover Hinge Nut
HNNL15S	Safety Cover Hinge Lock Nut (Nylock)
FFW05S	Safety Cover Hinge Washer
T3064	Safety Cover Hinge Spring
T3066	Safety Cover Hinge RH
T3067	Safety Cover Hinge LH
PHS023S	Case Top Screw 10-24X 3/8
T3069-1C	Case Top Side Screw Clip
54321	Waterproof Toggle Half Boot
T3103	On and Off Plate
T3105	Waterproof Cap Nut, Interlock
T3186-1A	Toggle Switch, 3 Phase w/Cap Nut
T3186-4A	Toggle Switch, 1 Phase w/Half Boot
T3187	Thermal Circuit Breaker, 8 Amp
T3187-1	Thermal Circuit Breaker, 10 Amp
T3187-2	Thermal Circuit Breaker, 12 Amp
T3187-3	Thermal Circuit Breaker, 5 Amp
T3188	Waterproof Reset Button Seal (not shown)
T3189	“Press to Reset” Plate (not shown)
T3190	Circuit Breaker Lock Washer (not shown)
T3200A	Interlock Switch, 1 Phase w/Cap Nut
T3200-1A	Interlock Switch, 3 Phase w/Cap Nut
LWET30S	Shakeproof Washer UL
T3290-4A	Switch Harness with Waterproof Half Boot, 15 Amp (1 PH) 115V (3 PH also available)



WRAPAROUND CASE PARTS

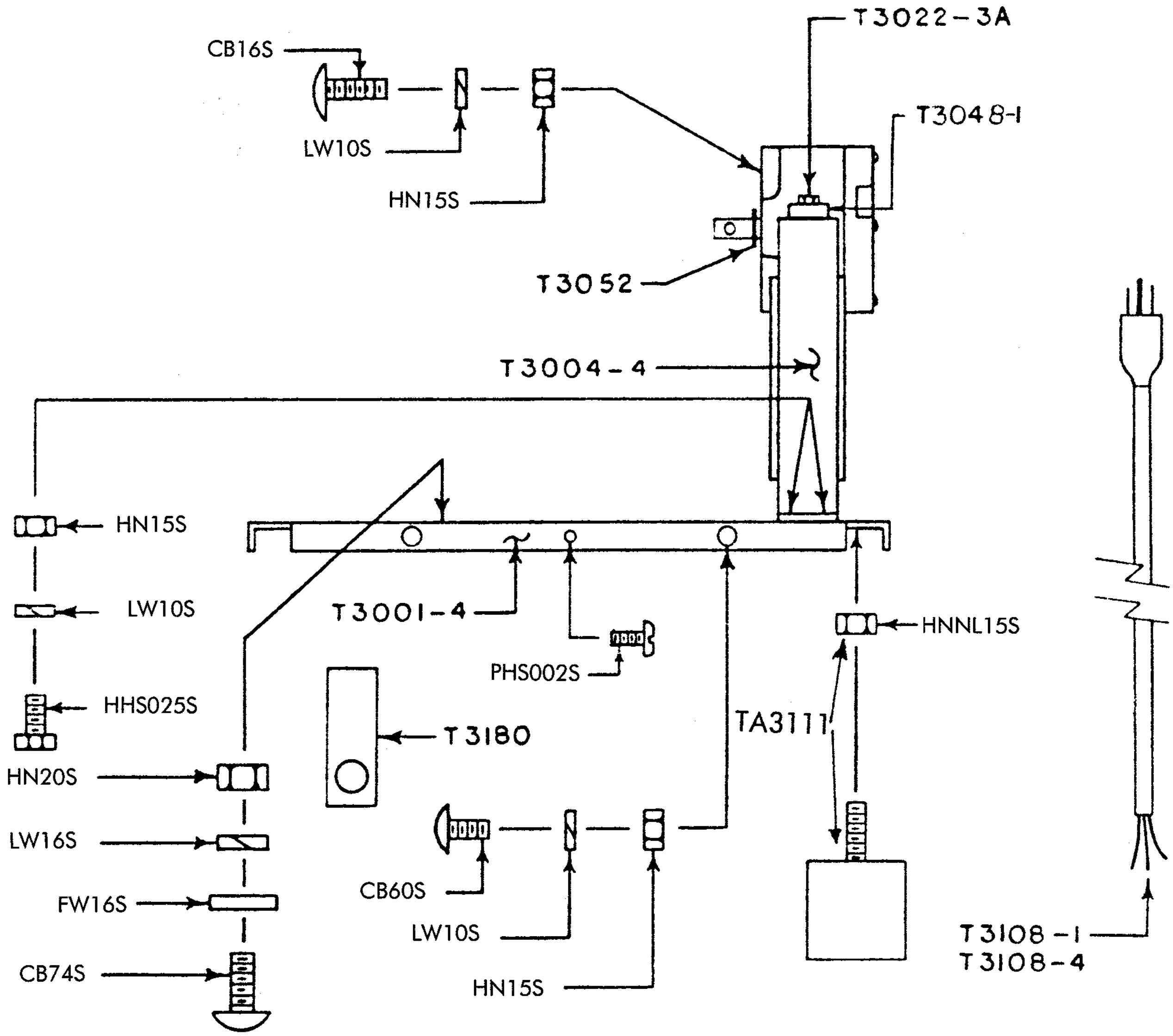
Item Number	Description
T3005	Case, SS
LW10S	Lock washer ¼
T3059-5-3	Warning Label
PHS023S	Case Top Side Screw (10-24)
T3069-1C	Case Top Side Screw Clip
T3248-1	Cradle Rest Bar
T3248-4	Cradle Rest Thrust Plate
HHS040S	Cradle Rest Bar Screw, RH
HHS046S	Cradle Rest Bar Screw, LH
T3250	Case Joining Strip

The Lexan Safety Cover for the Pro-9 has been redesigned to comply with current international standards. It is now 1-3/4 inch (44 mm) taller than the former design and completely interchangeable with the previous safety cover which is no longer available.



SAFETY COVER PARTS

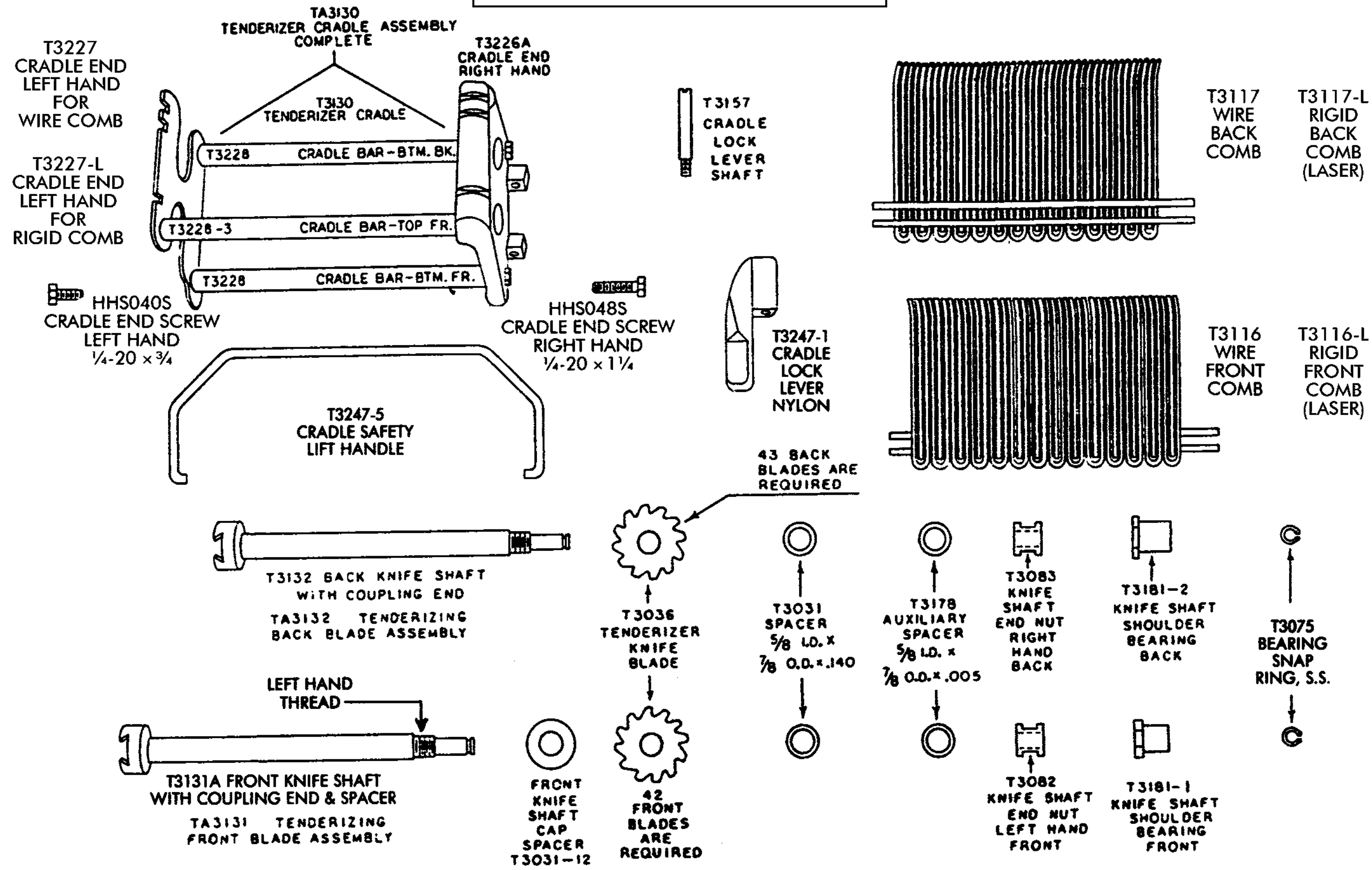
Item Number	Description	Item Number	Description
T3059-3-2	Caution Decal	T3090	NSF Decal *DNS
T3059-5-3	Warning Label	T3096-0-1	Safety Cover, Stainless Steel
T3059-6	Cover removal label		
T3076	BIRO SirSteak Decal *DNS	TA3096M-2	Safety Cover, Transparent w/Decals



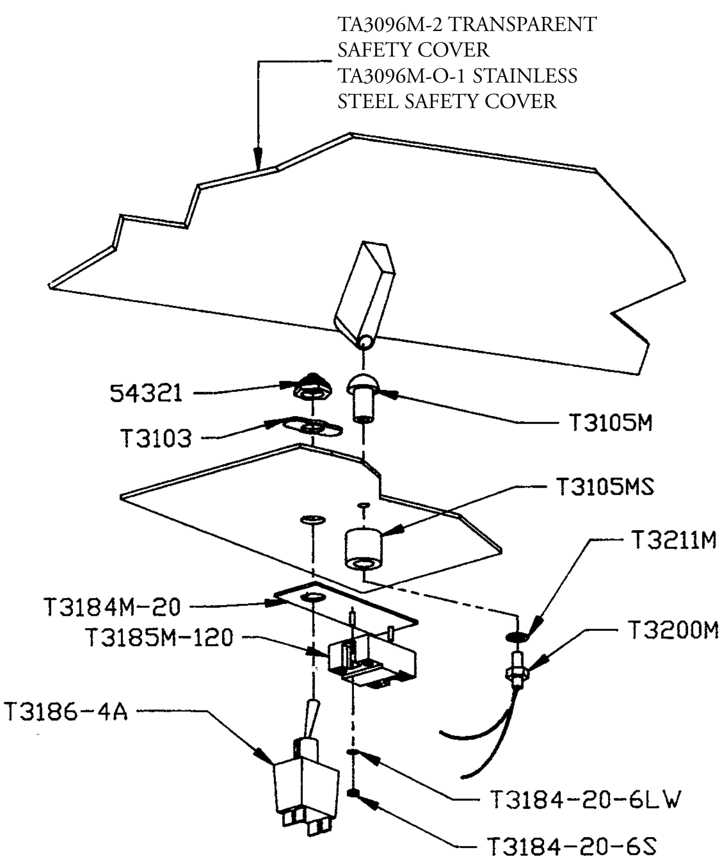
PRO-9 SD AND HD BASE FRAME PARTS LIST (REAR VIEW)
STARTING WITH S/N 40299 ON

Item Number	Description	Item Number	Description
T3001/04-4	Base Plate & Gear Housing Bracket Assembly #52884 on	CB60S	Case Screw (½)
		CB61S	Case Screw(¾)
T3022-3A	Frame Positioning Lock Screw (#40299 on)	HN15S	Case Screw Hex Nut ¼-20
CB74S	Motor Screw (5/16 × ¾ carr.)	T3108-1	Motor Cord & Plug (115V-1PH)
HN20S	Motor Screw Nut (5/16-18)	T3108-4	Motor Cord & Plug (220V-1PH)
FW16S	Motor Screw Washer, 5/16	TA3111	Base Foot w/Nut Assembly
T3052	Idler Gear Shaft Washer	T3111-2	Base Leg, 4" SS (shpbrd)
LW10S	Lock Washer (¼)	HHS025S	Hex head Cap Screw ¼-20 × ½
LW16S	Lock Washer (5/16)	T3180	Cord Clamp
HNNL15S	Safety Cover Hinge Lock Nut (¼-20)	T3197-2	Motor Shim
PHS002S	Case Top Side Screw (8-32)	LWET03S	Grounding Shakeproof Washer

TENDERIZER CRADLE PARTS

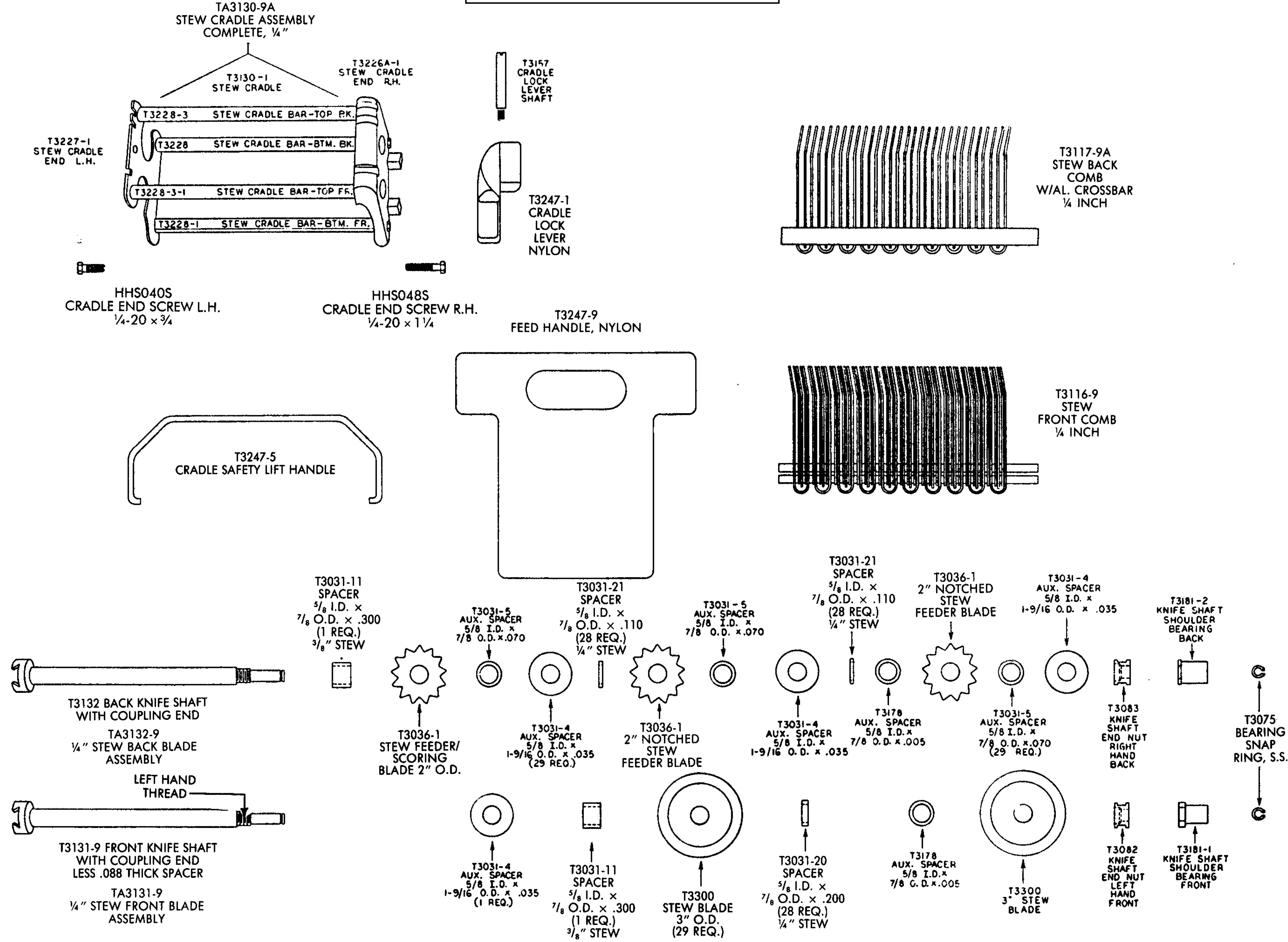


TA3185M-115-TK SOLID STATE RELAY KIT FOR TRANSPARENT COVER
TA3185M-115-SK SOLID STATE RELAY KIT FOR STAINLESS STEEL SAFETY COVER



Item number	Description
TA3185M-K	Harness with solid state switch and reed 110V-220V
TA3096M-0-1	SS safety cover w/magnet
TA3096M-2	Transparent safety cover w/magnet
54321	Toggle switch half boot
T3103	On & Off plate
TA3105M-2	Reed switch cap & spacer
T3105M	Reed switch cap
T3105MS	Spacer, switch cap
T3108-1	Power cord, 115V, 1PH
T3108-4	Power cord, 220V, 1PH
T3184-20-6LW	Relay lock washer
T3184-20-6S	Relay lock nut
T3184M-20	Switch & relay bracket
T3185M-120	Solid state relay, 115/220 volt starting w/ SR# 72504SD
T3186-1A	Toggle switch, On/Off, 3ph, 220V
T3186-4A	Toggle switch, On/Off, 1 Ph 115V
T3200M	Reed interlock switch
T3211M	Reed switch lock washer

STEW CRADLE PARTS 1/4″

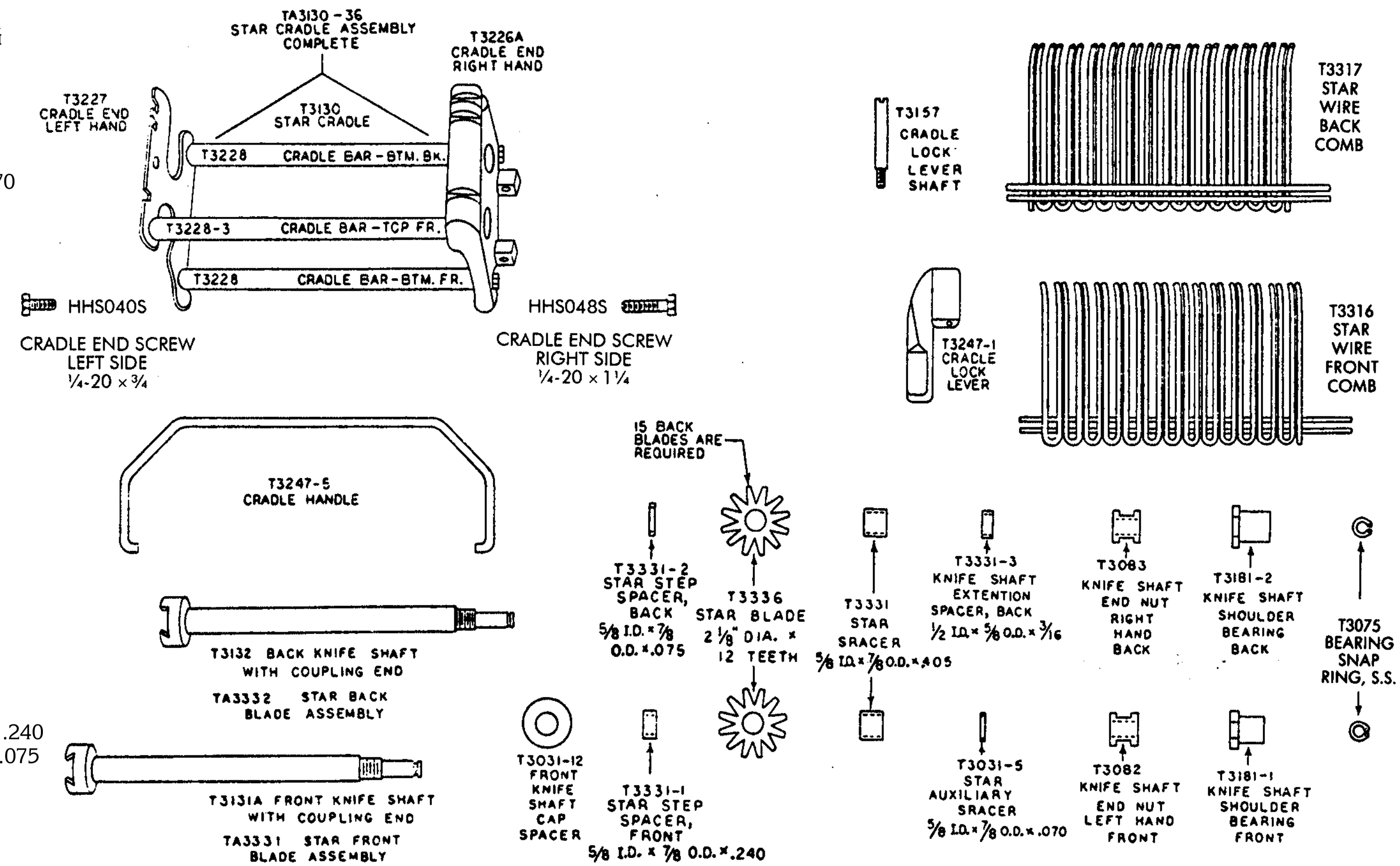


¼" STEW CRADLE PARTS LISTING

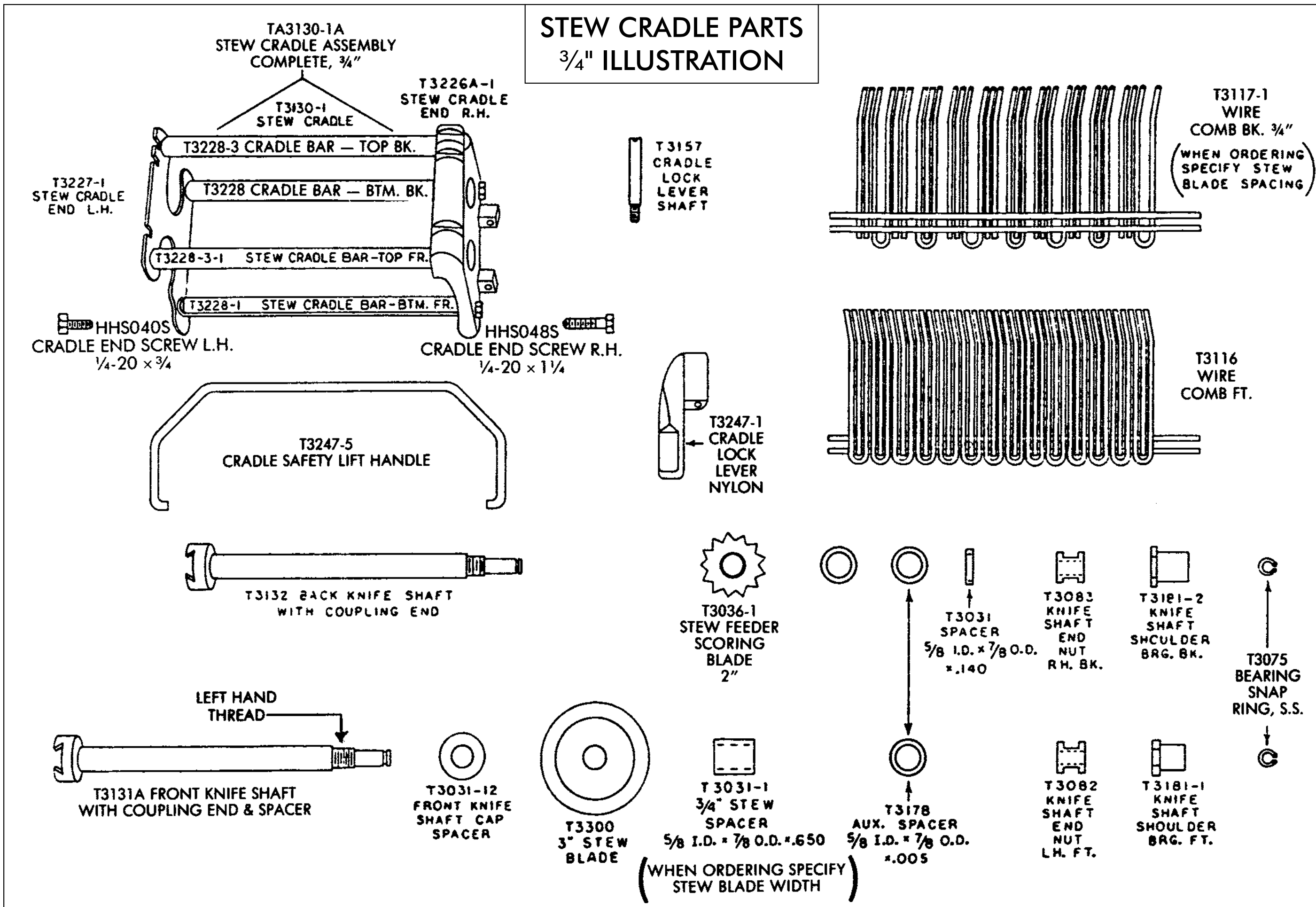
Item Number	Description	Qty.	Item Number	Description	Qty.	Item Number	Description	Qty.
TA3130-9A	Stew Cradle Assembly Complete, ¼"	1	T3116-9	Stew Wire Comb, Front, ¼"	1	T3228	Stew Cradle Bar, Bottom Back	1
TA3131-9	Stew Front Blade Assembly, ¼"	1	T3117-9A	Stew Wire Back Comb w/Al. Crossbar, ¼"	1	T3228-1	Stew Cradle Bar, Bottom Front	1
TA3132-9	Stew Back Blade Assembly, ¼"	1	T3130-1	Stew Cradle Less Blades & Combs	1	T3228-3	Stew Cradle Bar, Top Back	1
T3031-11	Spacer, ⅝ ID × ⅞ OD × .300	1	T3131-9	Front Knife Shaft w/Cplg. End, Less .088 spcr.	1	T3228-3-1	Stew Cradle Bar, Top Front	1
T3031-20	Spacer, ⅝ ID × ⅞ OD × .200	28	T3132	Back Knife Shaft w/Cplg. End	1	T3229	Cradle End Screw, LH, ¼-20 × ¾	4
T3031-21	Spacer, ⅝ ID × ⅞ OD × .110	28	T3157	Cradle Lock Lever Shaft	1	T3230	Cradle End Screw, RH, ¼-20 × 1¼	4
T3031-4	Aux. Spacer, ⅝ ID × 1$\frac{9}{16}$ OD × .035	29	T3178	Aux. Spacer. ⅝ ID × ⅞ OD × .005	*	T3247-1	Cradle Lock Lever, Nylon	1
T3031-5	Aux. Spacer, ⅝ ID × ⅞ OD × .070	*	T3181-1	Knife Shaft Shoulder Bearing, Front	1	T3247-5	Cradle Safety Lift Handle	1
T3036-1	2" Notched Stew Feeder Blade	29	T3181-2	Knife Shaft Shoulder Bearing, Back	1	T3247-9	Hand Feeder, Option, Nylon	0
T3075	Bearing Snap Ring, SS	2	T3226A-1	Stew Cradle End, RH	1	T3300	Stew Blade, 3" O.D.	29
T3082	Front Knife Shaft End Nut, LH	1	T3227-1	Stew Cradle End, LH	1			
T3083	Back Knife Shaft End Nut, RH	1						

STAR CRADLE PARTS LISTING

Number	Description
TA3130-36	Star Cradle Assembly, Complete
TA3331	Star Front Blade Assembly
TA3332	Star Back Blade Assembly
T3031-5	Star Auxiliary Spacer ⅝ID × ⅞OD × .070
T3031-12	Front Knife Shaft Cap Spacer
T3075	Bearing Snap Ring, SS
T3082	Front Knife Shaft End nut, LH
T3083	Front Knife Shaft End Nut, LH
T3083	Back Knife Shaft End Nut, RH
T3130	Cradle
T3131A	Front Knife Shaft w/Coupling End
T3132	Back Knife Shaft w/Coupling end
T3157	Cradle Lock Lever Shaft
T3181-1	Front Knife Shaft Shoulder Bearing
T3181-2	Back Knife Shaft Shoulder Bearing
T3226A	Cradle End, Right Hand
T3227	Cradle End, Left Hand
T3228	Cradle Bar, Bottom Back & Front
T3228-3	Cradle Top Bar, Front & Back
T3229	Cradle End Screw, LH, ¼-20 × ¾
T3230	Cradle End Screw, RH, ¼-20 × 1¼
T3247-1	Cradle Lock Lever
T3247-5	Cradle Lift Handle
T3316	Star Wire Comb, Front
T3317	Star Wire Comb, Back
T3331	Star Spacer ⅝ID × ⅞OD × .405
T3331-1	Star Step Spacer, Front ⅝ID × ⅞OD × .240
T3331-2	Star Step Spacer, Back ⅝ID × ⅞OD × .075
T3331-3	Knife Shaft Extension Spacer, Back ½ID × ⅝OD × $\frac{3}{16}$
T3336	Star Blade, 2⅛" Dia. × 12 teeth



STEW CRADLE PARTS 3/4" ILLUSTRATION



NOTE: All No.'s ending in "A" have #T3031-4 Spacer omitted from their assemblies starting with SR #57696 HD on 1-6-89.

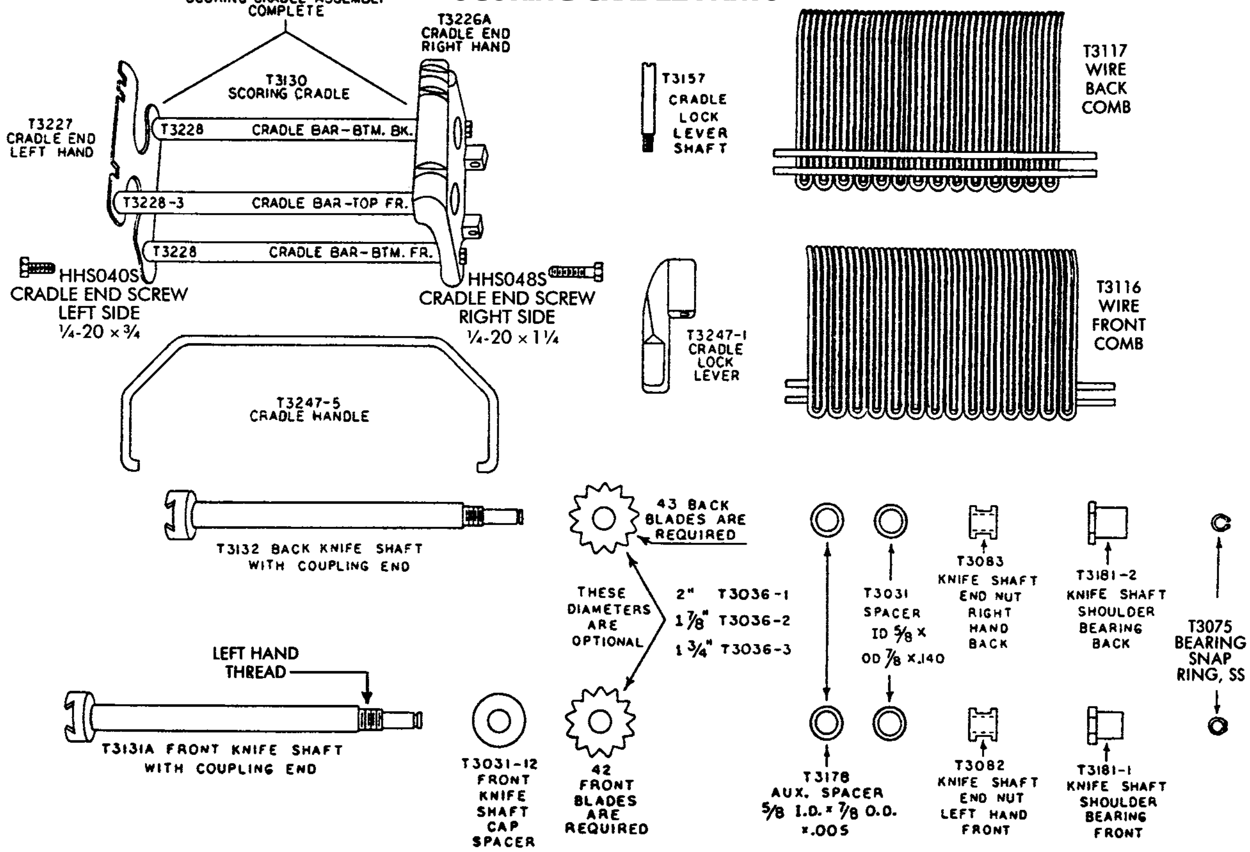
STEW CRADLE PARTS LISTING

T3031-1	Stew, front spacer for 3/4" width
T3031-2	Stew, front spacer for 1" width
T3031-3	Stew, front spacer for 1 1/4" width
T3031-5	Aux spacer 5/8ID × 7/8OD × .070
T3031-7	Knife shaft extension end spacer 1/2 × 5/8 × 1/8
T3031-8	Knife shaft extension end spacer 1/2 × 5/8 × 3/16
T3031-9	Stew, front spacer for 9/16" width
T3031-11	Stew, front spacer for 3/8" width
T3031-12	Front knife shaft cap spacer
T3031-14	Stew, front spacer for 7/8" width
T3031-17	Stew, front spacer for 1 9/16" width
T3031-18	Stew, front spacer for 2" width
TA3130-1A	Stew cradle assembly, complete 3/4" wide
TA3130-2A	Stew cradle assembly, complete 1" wide
TA3130-3A	Stew cradle assembly, complete 1 1/4" wide
TA3130-4A	Stew cradle assembly, complete 9/16" wide
TA3130-5A	Stew cradle assembly, complete 3/8" wide
TA3130-7A	Stew cradle assembly, complete 1 9/16" wide
TA3130-8A	Stew cradle assembly, complete 2" wide
TA3130-14A	Stew, cradle assembly, complete 7/8" wide
TA3131-1	Stew, front blade assembly, 3/4" wide
TA3131-2	Stew, front blade assembly, 1" wide
TA3131-3	Stew, front blade assembly, 1 1/4" wide
TA3131-4	Stew, front blade assembly, 9/16" wide
TA3131-5	Stew, front blade assembly, 3/8" wide
TA3131-7	Stew, front blade assembly, 1 9/16" wide
TA3131-8	Stew, front blade assembly, 2" wide
TA3131-14	Stew, front blade assembly, 7/8" wide
T3116	Wire front comb
T3116-9	Stew, wire front comb, 1/4" wide
T3117-1	Stew, wire back comb, 3/4" wide
T3117-2	Stew, wire back comb, 1" wide
T3117-3	Stew, wire back comb, 1 1/4" wide
T3117-4	Stew, wire back comb, 9/16" wide
T3117-5	Stew, wire back comb, 3/8" wide
T3117-7	Stew, wire back comb, 1 9/16" wide
T3117-8	Stew, wire back comb, 2" wide
T3117-9	Stew, wire back comb, 1/4" wide
T3117-14	Stew, wire back comb, 7/8" wide
TA3132-20	Stew/scoring back blade assembly, 2" O.D. for stew cradles after Sr. No. 57696 & before Sr. No. 57696
TA3132-1	Replaced by TA3132-20
TA3132-2	Replaced by TA3132-20
TA3132-3	Replaced by TA3132-20
TA3132-4	Replaced by TA3132-20
TA3132-5	Replaced by TA3132-20
TA3132-7	Replaced by TA3132-20
TA3132-8	Replaced by TA3132-20
TA3132-14	Replaced by TA3132-20

T3300 Stew blade, 3" O.D.
Requirement
29 for 1/4"
21 for 3/8"
15 for 9/16"
11 for 3/4"
8 for 7/8"
8 for 1"
7 for 1 1/4"
5 for 1 9/16"
4 for 2"

T3036-1 Stew feeder/scoring blade, 2" O.D.
Requirement
29 for 1/4"
43 for 3/8"
43 for 9/16"
43 for 3/4"
43 for 7/8"
43 for 1"
43 for 1 1/4"
43 for 1 9/16"
43 for 2"

SCORING CRADLE PARTS



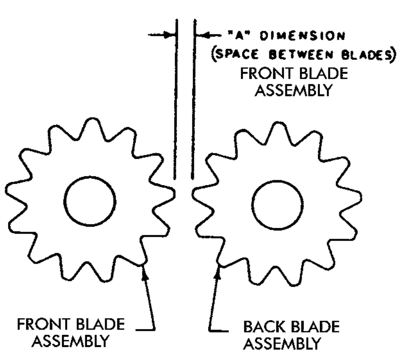
SCORING CRADLE PARTS w/BLADES & COMBS
(See parts list for other items)

	FT	BK	SCORING BLADES "A" – DIM
TA3130-20 Scoring Cradle Complete	2"	2"	0"
TA3130-21 Scoring Cradle Complete	2"	1⅞"	1/16"
TA3130-22 Scoring Cradle Complete	1⅞"	1⅞"	⅛"
TA3130-23 Scoring Cradle Complete	1⅞"	1¾"	3/16"
TA3130-24 Scoring Cradle Complete	1¾"	1¾"	¼"

SCORING BLADE ARRANGEMENT FOR BIRO – SIR STEAK TENDERIZERS

	PATTY THICKNESS	RECOMMENDED BLADE ASSEMBLY COMBINATION FOR 1/16" DEPTH OF SCORING ON EACH SIDE OF PATTY.		
		FRONT BLADE DIA.	BACK BLADE DIA.	"A" DIMENSION
SOFT	⅛ – ¼	2	2	0
SOFT	¼ – ½	2	1⅞	1/16
FROZEN	¼	1⅞	1⅞	⅛
FROZEN	5/16	1⅞	1¾	3/16
FROZEN	⅜	1¾	1¾	¼

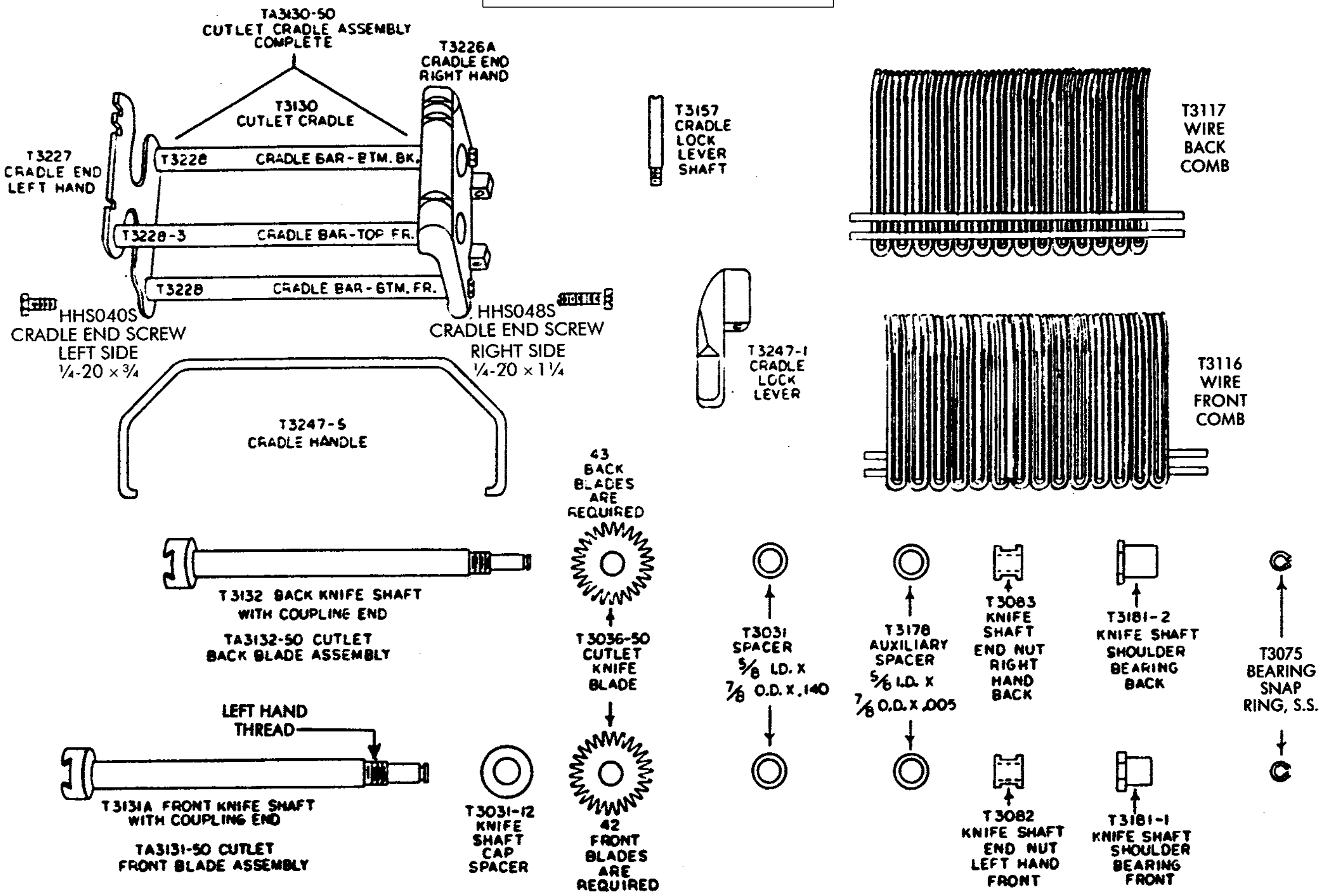
NOTE: IF A DEEPER SCORING IS DESIRED USE THE NEXT LARGER DIAMETER BLADE ASSEMBLY COMBINATION THAT THAT RECOMMENDED. (ALL DIMENSION ARE IN INCHES)



SCORING BLADES "A" DIMENSION

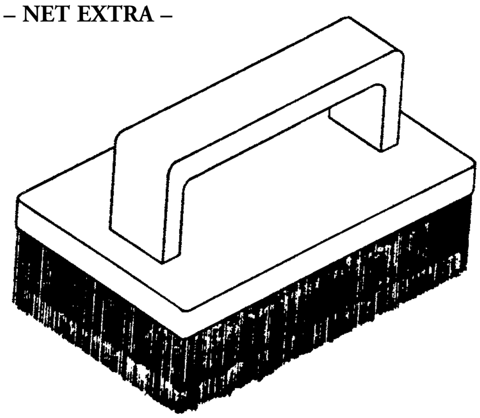
Item Number	Description	Diameter
T3036-1	Stew feeder scoring blade	2"
T3036-2	Scoring blade	1⅞"
T3036-3	Scoring blade	1¾"
TA3131-20	Scoring, front blade assembly	2"
TA3131-22	Scoring, front blade assembly	1⅞"
TA3131-24	Scoring, front blade assembly	1¾"
TA3132-20	Scoring, stew, back blade assembly	2"
TA3132-22	Scoring, back blade assembly	1⅞"
TA3132-24	Scoring, back blade assembly	1¾"

CUTLET PARTS LIST

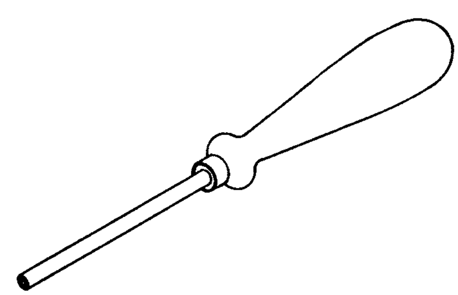


Item Number	Description
TA3130-50	Cutlet cradle assembly complete
TA3131-50	Cutlet front blade assembly – 42 blades
TA3132-50	Cutlet back blade assembly – 43 blades
T3031	Spacer ⅝ ID × ⅞ OD × .140
T3031-12	Front knife shaft cap spacer
T3036-50	Cutlet knife blade – 26 teeth
T3075	Bearing snap ring, SS
T3082	Front knife shaft end nut, left hand
T3083	Back knife shaft end nut, right hand
T3116	Wire comb, front
T3117	Wire comb, back
T3130	Cradle
T3131A	Front knife shaft w/coupling end spacer
T3132	Back knife shaft w/coupling end
T3157	Cradle lock lever shaft
T3178	Auxiliary spacer ⅝ ID × ⅞ OD × .005
T3181-1	Knife shaft shoulder bearing front
T3181-2	Knife shaft shoulder bearing back
T3226A	Cradle end, right hand
T3227	Cradle end, left hand
T3228	Cradle bar, bottom back & front
T3228-3	Cradle bar, top front
T3229	Cradle bar end screw, left hand ¼-20 × ¾
T3230	Cradle bar end screw, right hand ¼-20 × 1¼
T3247-1	Cradle lock lever, nylon
T3247-5	Cradle safety lift handle

CLEANING BRUSH
P/N T3091-1
(OPTION)
– NET EXTRA –



COMB STRAIGHTENER
P/N TA3119
(OPTION)
– NET EXTRA –



PARTS ORDERING

Important: Must have Serial Number when ordering parts.

Please contact yoru nearest authorized Biro service agency for any repair parts required on your Biro – Sir Steak Model Pro-9 Tenderizer.

Additional information or authorized referral assistance may be obtained from:

The Biro Manufacturing Company
1114 West Main Street
Marblehead, Ohio 43440-2099
Phone: (419) 798-4451
FAX No. (419) 798-9106

Item No.	Description
T3001/04-4	Base plate & gear bracket assembly #52884 on
T3005	Case, SS
T3007-3	Gear box cover, SD, #52902 on
T3007-4	Gear box cover, HD, #52884 on
T3008-1	Gear box cover screw, SD, #31600 on, also HD
T3009-3-4	Gear box cover gasekt, SD, #52902 on; HD #52884 on
T3012	Knife drive gear & pinion, SD
T3012-1	Knife drive gear & pinion, HD
T3014	Knife drive gear front, SD
T3014-1	Knife drive gear, front, HD
T3015	Idler gear & pinion, SD, fibre
T3015A	Idler gear & pinion, SD, steel
T3015-2A	Idler gear & pinion, HD
T3016-1A	Driven pulley gear & shaft (#52,884 to #59,094), NA, replaced by T3016-8
T3016-8	Driven pulley gear & shaft (#59094 on) SD & HD
SSS08NPS	Key lock screw, 1/2"
T3019-2	Driven pulley shaft ball bearing #31600 on
T3019-3	Gear box ball bearing, HD
T3020	Driven pulley, 4 × 1/2, SD only (85 RPM)
SSS05S	Driven pulley lock set screw, HTD
T3020-8-4	Woodruff key
T3020-9	Driven Pulley, 2V, 4 × 1/2, SD & HD 60HZ-SD 85 & 105 RPM 60HZ-HD 115 & 140 RPM 50HZ-SD 85 RPM; 50HZ-HD 140 RPM
T3020-9-1	Driven Pulley, 2V, 3 × 1/2, SD & HD 50HZ-SD 105 RPM
T3021-1	Driven pulley roll pin, SD & HD
T3022-3A	Frame positioning lock screw, #52884 on
T3023-1-2	Idler gear shaft, SD, #52902 on; HD #52884 on
T3023-1-2S	Idler gear shaft screw, SD, #52902 on; HD #52884 on
T3024-1	Motor pulley, 3 × 5/8, 50 cycle, SD only (85 RPM)
T3024-2	Motor pulley, 2 1/2 × 5/8, 60 cycle, SD only (85 RPM)
T3024-6A	Motor timing pulley, 2 × 5/8, HD only, 60 cycle (115 RPM), obsolete order TA3024-8K
T3024-8	Motor pulley, HTD, 60 cycle, 115 RPM (2 × 5/8) HD only, 30 tooth
T3024-8-1	Motor pulley, HTD, (50 cycle – 115 RPM) (60 cycle – 140 RPM) (2 1/2 × 5/8) HD only
T3024-8-2	Motor pulley, HTD (50 cycle – 140 RPM) HD only
T3024-9	Motor Pulley, 2V, 2 × 5/8 60HZ-HD 115 RPM
T3024-9-1	Motor Pulley, 2V, 3 × 5/8 60HZ-SD 105 RPM 50HZ-SD 85 & 105 RPM; 50HZ-SD 140 RPM
T3024-9-2	Motor Pulley, 2V, 2 3/8 × 5/8 60HZ-HD 140 RPM
T3025	Motor pulley key
T3026-1	Coupling shaft bearing, #43479 on
T3027	Motor pulley set screw
T3031	Spacer
T3031-1	Stew, front spacer for 3/4" width (10) req'd
T3031-2	Stew, front spacer for 1" width (7) req'd
T3031-3	Stew, front spacer for 1 1/4" width (6) req'd
T3031-4	Auxiliary spacer, 5/8 ID × 1 9/16 OD × .035
T3031-5	Auxiliary spacer, 5/8 ID × 7/8 OD × .070
T3031-6	Auxiliary spacer, 5/8 ID × 7/8 OD × .035
T3031-7	Knife shaft extension end spacer 1/2 ID × 5/8 OD × 1/8
T3031-8	Knife shaft extension end spacer 1/2 ID × 5/8 OD × 3/16
T3031-9	Stew, front spacer for 9/16" width (14) req'd
T3031-11	Stew, front spacer for 3/8" width (20) req'd
T3031-12	Front knife shaft cap spacer
T3031-14	Stew, front spacer for 7/8" width (8) req'd
T3031-17	Stew, front spacer for 1 9/16" width (4) req'd
T3031-18	Stew, front spacer for 2" width (3) req'd
T3031-20	Spacer, .200 × 5/8 × 7/8, 28 required, 1/4" stew frt.
T3031-21	Spacer, .110 × 5/8 × 7/8, 28 required, 1/4" stew bk.
SSS03NPS	Key lock screw, 1/4"
T3036	Tenderizer knife blade
T3036-1	Stew feeder/scoring blade, 2" O.D.
T3036-2	Scoring blade, 1 7/8" O.D.
T3036-3	Scoring blade, 1 3/4" O.D.
T3036-50	Cutlet knife blade, 26 teeth
T3045-3E-4	Motor, 3/4HP, 115/220-50/60-1 HD
T3045-4C	Motor, 3/4HP, 220-50-1, SD & HD
T3045-11E-3	Motor, 1/2HP, 115/220-50/60-1, SD & HD
T3045-12	Motor, 3/4HP, 230/460-60-3, HD
T3045-13A	Motor, 3/4HP, 220/440-50/60-3, HD
CB74S	Motor screw, 5/16 × 3/4 carriage
HN20S	Motor screw, nut, 5/16-18
FW16S	Motor screw washer, 5/16
T3052	Idler gear shaft washer
LW10S	Lock washer, 1/4"
LW16S	Lock washer, 5/16", motor bolt
T3059-3A	Caution decal for safety cover, NC
T3059-4	Warning decal #42670 on, NC
HNNL15S	Safety cover hinge nut (nylock)
FFW05S	Safety cover hinge washer
T3064	Safety cover hinge spring
T3066	Safety cover hinge, RH
T3067	Safety cover hinge, LH
T3068	Safety cover hinge lock washer
PHS002S	Case top screw, #8-32
PHS023S	Case top side screw, #10-24 × 3/8, #50420 on
T3069-1C	Cover side screw clip, #50420 on
CB60S	Case screw, 1/2"
CB61S	Case screw, 3/4"
HN15S	Case screw nut, 1/4-20 hex
T3075	Bearing snap ring, SS
T3078-1	Thrust washer bearing, SD, #55020 on, HD #55022 on
T3079A	Motor belt, 20", 50 cycle only, #51093 on
T3079-2A	Motor belt, 19", 60 cycle SD, 50 cycle HD
T3079-3	Motor belt, 18-3/4, 60 cycle, HD (special only)
T3079-6	Motor timing belt, 60 cycle (115 RPM), 47 teeth, HD only
T3079-6-1	Motor timing belt, 50 cycle (115 RPM), 50 teeth, HD only (also used on 60 cycle, 140 RPM)
T3079-8	Motor HTD belt, 60Cy-115RPM, 450 mm, HD
T3079-8-1	Motor HTD belt, 50CY-115RPM, 60Cy-140RPM, 465mm, HD
T3079-8-2	Motor HTD belt, 50Cy-140RPM, 500mm, HD
T3079-9	Motor Belt, 2V, 2/5M462 60HZ-HD 115 RPM
T3079-9-1	Motor Belt, 2V, 2/5M475 60HZ-SD 85 RPM; 60HZ-HD 140 RPM 50HZ-SD 105 RPM
T3079-9-2	Motor Belt, 2V, 2/5M500 60HZ-SD 105 RPM 50HZ-SD 85 RPM; 50HZ-HD 140 RPM
T3081	Idler gear bearing

Item No.	Description
T3082	Knife shaft end nut, left hand, front
T3083	Knife shaft end nut, right hand, back
T3088-1	Gear box vent, 1 psi
T3091-1	Cleaning brush
TA3096M-0	Safety cover, stainless
TA3096M-1	Safety cover, transparent
T3101-1	Waterproof cap nut, toggle
T3103	On & Off plate
T3104-1	Silicone washer, HD
T3104-2	Silicone washer, SD, #43479 on
T3105	Safety switch cap nut, waterproof
T3106-1	Pulley shaft oil seal, SD & HD
T3106-2	Coupling shaft oil seal, HD
T3108-1	Motor cord & plug, 115V
T3108-4	Motor cord & plug, 220V (3PH also available)
T3111-1	Base foot w/1/4-20 screw, order TA3111
T3116	Tenderizer wire front comb
T3116-L	Tenderizer rigid front comb (laser)
T3116-1	Stew, wire front comb, SS, 3/4" width
T3116-2	Stew, wire front comb, SS, 1" width
T3116-4	Stew, wire front comb, SS, 9/16" width
T3116-5	Stew, wire front comb, SS, 3/8" width
T3116-9	Stew, wire front comb, 1/4" width
T3117	Tenderizer, wire back comb
T3117-L	Tenderizer rigid back comb (laser)
T3117-1	Stew, wire back comb, 3/4" width
T3117-2	Stew, wire back comb, 1" width
T3117-3	Stew, wire back comb, 1 1/4" width
T3117-4	Stew, wire back comb, 9/16" width
T3117-5	Stew, wire back comb, 3/8" width
T3117-7	Stew, wire back comb, 1 9/16" width
T3117-8	Stew, wire back comb, 2" width
T3117-9A	Stew, wire back comb w/cross bar, 1/4" width
T3117-14	Stew, wire back comb, 7/8" width
T3119	Comb straightener
T3130	Cradle less blades & combs
T3130-1	Stew cradle less blades & combs
T3131A	Front knife shaft w/coupling end & spacer
T3132	Back knife shaft w/coupling end
T3157	Cradle lock lever shaft
T3169	Knife drive coupling, front w/pin, SD
T3170	Knife drive coupling, back, w/pin, SD
T3171	Knife drive coupling, front and rear w/pin, HD
T3171-1	Coupling shaft key, front, HD
T3171-2	Coupling shaft key, back, HD
T3172	Knife drive coupling retaining ring, front and back #42583 on, HD
T3172-1	Knife drive coupling spacer, front and back #44186 on, HD
T3175	Knife drive coupling pin (#30000 to #32452-#42834 on)
T3175-1	Knife drive coupling pin (#32452 to #42834)
T3178	Auxiliary spacer 5/8 ID × 7/8 OD × .005
T3078-1	Thrust washer bearing, SD, #55020 on, HD, #55022 on
T3180	Cord clamp

Item No.	Description
T3181-1	Knife shaft shoulder bearing, front
T3181-2	Knife shaft shoulder bearing, back
T3186-1A	Toggle switch w/cap nut, 3 phase
T3186-4A	Toggle switch w/half boot, 1 phase
T3187	Thermal circuit breaker, SD, 8 Amp, #46032 on
T3187-1	Thermal circuit breaker, HD, 10 Amp, #46032 on
T3187-2	Thermal circuit breaker, 12 Amp, #46032 on
T3187-3	Thermal circuit breaker, 5 Amp, #46032 on
T3188	Waterproof reset button seal, #46032 on
T3189	"Press to reset" plate, #46032 on
T3190	Circuit breaker lock washer, #46032 on *NSS
T3197-2	Motor shim
T3200A	Interlock switch w/cap nut, 1 phase
T3200-1A	Interlock switch w/cap nut, 3 phase
LWET30S	Shakeproof washer
LWET03S	Grounding shakeproof washer
T3226A	Cradle end, right hand
T3226A-1	Stew cradle end, right hand
T3227	Cradle end, left hand – for wire comb
T3227-L	Cradle end, left hand – for rigid comb
T3227-1	Stew cradle end, left hand
T3228	Cradle bar, bottom front & back
T3228-1	Stew cradle bar, bottom front
T3228-3	Cradle bar, top front & back
T3228-3-1	Stew cradle bar, top front
T3229	Cradle end screw, left side, 1/4-20 × 3/4
T3230	Cradle end screw, right side, 1/4-20 × 1 1/4
T3247-1	Cradle lock lever, nylon
T3247-5	Cradle safety lift handle
T3247-9	Hand feeder, nylon
T3248-1	Cradle rest bar
T3248-4	Cradle rest thrust plate
HHS040S	Cradle rest bar screw, RH
HHS046S	Cradle rest bar screw, LH
T3250	Case joining strip
T3290-4A	Switch harness w/half boots 15Amp/1PH/115V
T3290-4A-5	Switch harness w/5 Amp breaker
T3290-4A-8	Switch harness w/8 Amp breaker
T3290-4A-10	Switch harness w/10 Amp breaker
T3290-4A-12	Switch harness w/12 Amp breaker
T3294	Gear spacer, front HD
T3294-1	Gear spacer, back HD
T3294-2	Gear thrust washer HD
T3300	Stew blade, 3.00 O.D.
T3316	Star dual rigid front comb
T3317	Star dual rigid back comb
T3331	Star spacer 5/8 ID × 7/8 OD × .405
T3331-1	Star step spacer, front, 5/8 ID × 7/8 OD × .240
T3331-2	Star step spacer, back, 5/8 ID × 7/8 OD × .075
T3331-3	Knife shaft extension spacer, back, 1/2 ID × 5/8 OD × 3/16
T3336	Star blade, 2 1/8" diameter × 12 tooth (5/8 × 2 1/8 × .120)

ASSEMBLY NUMBERS FOR THE PRO-9 MACHINE

Item No.	Description
TA3006-2	Case top assembly without switches, #50420 on
TA3006-2C	CSA case top assembly w/o switches
TA3020-6	Obs. driven timing pulley w/bushing, HD, NLA order TA3020-8K
TA3020-6K	Obs. timing belt & pulley kit, HD only, NLA order TA3020-8K
TA3020-8	HTD driven pulley w/lock collar (4 × $\frac{1}{2}$) HD only
TA3020-8K	HTD pulley & belt kit, 60Cy-115RPM, HD only
TA3020-9K	Poly Flex 2V Belt & Pulley Kit 60HZ-HD 115 RPM
TA3020-9K-2	Poly Flex 2V Belt & Pulley Kit 60HZ-SD 105 RPM 50HZ-SD 85 RPM; 50HZ-HD 140 RPM
TA3020-9K-3	Poly Flex 2V Belt & Pulley Kit 60HZ-SD 85 RPM, 60HZ-HD 140 RPM, 50HZ-HD 115 RPM
TA3020-9K-4	Poly Flex 2V Belt & Pulley Kit 50HZ-SD 105 RPM
TA3111	Base foot assembly
TA3130	Tenderizer cradle assembly, complete
TA3130-1A	Stew, cradle assembly, complete $\frac{3}{4}$" width
TA3130-2A	Stew, cradle assembly, complete 1" width
TA3130-3A	Stew, cradle assembly, complete $1\frac{1}{4}$" width
TA3130-4A	Stew, cradle assembly, complete $\frac{9}{16}$" width
TA3130-5A	Stew, cradle assembly, complete $\frac{3}{8}$" width
TA3130-7A	Stew, cradle assembly, complete $1\frac{9}{16}$" width
TA3130-8A	Stew, cradle assembly, complete 2" width
TA3130-9A	Stew, cradle assembly, complete $\frac{1}{4}$" width
TA3130-14A	Stew, cradle assembly, complete $\frac{7}{8}$" width
TA3130-20	Scoring cradle complete FT 2" BK 2"
TA3130-21	Scoring cradle complete FT 2" BK $1\frac{7}{8}$"
TA3130-22	Scoring cradle complete FT $1\frac{7}{8}$" BK $1\frac{7}{8}$"

ItemNo.	Description
TA3130-23	Scoring cradle complete FT $1\frac{7}{8}$" BK $1\frac{3}{4}$"
TA3130-24	Scoring cradle complete FT $1\frac{3}{4}$" BK $1\frac{3}{4}$"
TA3130-36	Star cradle assembly, complete
TA3130-50	Cutlet cradle assembly complete
TA3131	Tenderizing front blade assembly
TA3131-1	Stew, front blade assembly, complete $\frac{3}{4}$" width
TA3131-2	Stew, front blade assembly, complete 1" width
TA3131-3	Stew, front blade assembly, complete $1\frac{1}{4}$" width
TA3131-4	Stew, front blade assembly, complete $\frac{9}{16}$" width
TA3131-5	Stew, front blade assembly, complete $\frac{3}{8}$" width
TA3131-7	Stew, front blade assembly, complete $1\frac{9}{16}$" width
TA3131-8	Stew, front blade assembly, complete 2" width
TA3131-9	Stew, front blade assembly, complete $\frac{1}{4}$" width
TA3131-14	Stew, front blade assembly, complete $\frac{7}{8}$" width
TA3131-20	Scoring, front blade assembly, 2" O.D.
TA3131-22	Scoring, front blade assembly, $1\frac{7}{8}$" O.D.
TA3131-24	Scoring, front blade assembly, $1\frac{3}{4}$" O.D.
TA3131-50	Cutlet front blade assembly, 42 blades
TA3132	Tenderizing back blade assembly
TA3132-9	Stew, back blade assembly, $\frac{1}{4}$" width
TA3132-20	Universal stew and scoring, back blade assembly, 2" O.D.
TA3132-22	Scoring, back blade assembly, $1\frac{7}{8}$" O.D.
TA3132-24	Scoring, back blade assembly, $1\frac{3}{4}$" O.D.
TA3132-50	Cutlet back blade assembly, 43 blades
TA3168-3	Gear box assembly w/pulley, SD, #52902 on
TA3168-4	Gear box assembly 2/pulley, HD, #52884 on
TA3169	Knife drive coupling & gear box assembly, front, SD
TA3170	Knife drive coupling & gear box assembly, back, SD
TA3331	Star front blade assembly
TA3332	Star back blade assembly

Bill of Material for Kit Numbers

TA3020-9K

1	T3020-8-4	key
1	T3020-9	4" pulleye
1	T3024-9	2" pulleye
1	T3025	key
1	T3079-9	2/5M462 belt – poly vee

TA3020-9K-2

1	T3020-8-4	key
1	T3020-9	4" pulleye
1	T3024-9-1	3" pulleye
1	T3025	key
1	T3079-9-2	2/5M500 belt – poly vee

TA3020-9K-3

1	T3020-8-4	key
1	T3020-9	4" pulleye
1	T3024-9-2	$2\frac{3}{8}$" pulleye
1	T3025	key
1	T3079-9-1	2/5M475 belt – poly vee

OPERATOR'S SIGNATURE PAGE

WARNING

READ AND UNDERSTAND THIS ENTIRE MANUAL BEFORE SIGNING BELOW

MY SIGNATURE ATTESTS THAT I HAVE COMPLETELY READ AND UNDERSTAND THIS MANUAL. I REALIZE THAT THIS MACHINE, IF OPERATED CARELESSLY, CAN CAUSE SERIOUS INJURY TO MYSELF AND OTHERS.

NAME (PRINT)	SIGNATURE	SUPERVISOR'S INITIALS	DATE

LIMITED WARRANTY:

WARRANTY: The Biro Manufacturing Company warrants that the Model Pro-9 will be free from defects in material and workmanship under normal use and with recommended service. BIRO will replace defective parts, which are covered by this limited warranty, provided that the defective parts are authorized for return, shipping charges prepaid, to a designated factory for inspection and/or testing.

DURATION OF WARRANTY: The warranty period for all parts covered by this limited warranty is one year from date of purchase, or eighteen months from factory ship date, whichever date occurs first, except as noted below.

PARTS NOT COVERED BY WARRANTY: The following wearable parts are **not** covered by this limited warranty: tenderizer blades, 3″ stew blades, scoring blades, star blades, feeder blades, cutlet blades, and **all** front and rear wire combs This limited warranty does not apply to machines sold as used, rebuilt, modified, or altered from the original construction in which the machine was hipped from the factory. (Water contaminated electrical systems are not covered under this limited warranty). BIRO is not responsible for service charges or labor required to replace any part covered by this limited warranty or for any damages resulting from misuse, abuse, lack of proper or recommended service, or for electrical connection of equipment, adjustments to switch gear or any other electrical requirements, which must be performed only by a certified electrician.

EXCLUSION OF WARRANTIES AND LIMITATION OF REMEDIES: BIRO gives no warranties other than those expressly stated in this limited warranty. THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR PROCESSING OF FOOD PRODUCTS, AND ALL OTHER IMPLIED WARRANTIES ARE SPECIFICALLY EXCLUDED. BIRO IS NOT LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, EXPENSES, OR LOSSES. THE REMEDIES PROVIDED IN THIS BIRO LIMITED WARRANTY ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES AGAINST BIRO.

REGISTRATION CARDS: You must sign, date and complete warranty registration card supplied with each machine. The warranty card must be returned to The Biro Manufacturing Company for proper registration. If no warranty card is returned to BIRO, the warranty period will begin from the date the machine was originally shipped from the factory.

HOW TO GET SERVICE:

1. Contact the entity from whom you purchased the machine; or
2. Consult the yellow pages of the phone directory for the nearest authorized dealer; or
3. Contact BIRO Mfg. Company for the authorized service entity (250 plus worldwide) in your area.

THE BIRO MANUFACTURING COMPANY
1114 Main Street
Marblehead, Ohio
Ph. 419-798-4451
Fax 419-798-9106
E-mail: service@biro saw.com
Web: http://www.biro saw.com

ITEM NO: T3400-091
PTCT PRO9-091 1-10-38 PPD